Columbia Analytical Services, Inc. 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

November 29, 2011 Analytical Report for Service Request No: K1110227

Lily Bayati
URS Corporation
3500 Porsche Way Suite 300
Ontario, CA 91764

RE: Santa Susana Field Laboratory

Dear Lily:

Enclosed are the results of the sample submitted to our laboratory on October 21, 2011. For your reference, these analyses have been assigned our service request number K1110227.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/ln

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
DOD ELAP	L11-119
Florida DOH	E87412
Georgia DNR	881
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
ISO 17025	L11-118
Louisiana DEQ	3016
Louisiana DHH	LA080001
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon – DEQ (NELAP)	WA100010
South Carolina DHEC	61002
Texas CEQ	04704427-08-TX
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	URS Corporation	**Service Request No.:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Received:**	10/21/2011
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One soil sample was received for analysis at Columbia Analytical Services on 10/21/2011. The sample was received in good condition and consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Hexavalent Chromium by EPA Method 7196A:
The matrix spike recoveries of <1% for Hexavalent Chromium for sample Batch QC were outside the CAS control limit due to the reducing characteristic of the sample matrix. As per the methodology, a post-spike was analyzed, but produced recovery outside acceptance criteria. A test for reducing properties was then conducted by measuring Redox Potential and pH. The results of that test indicated the sample consisted of a reducing matrix. The results were reported from the initial determination. No further corrective action was required.

Total Cyanide by EPA Method 9012A:
The Relative Percent Difference (RPD) for Total Cyanide in the replicate matrix spike analyses of sample Batch QC was outside control criteria. All spike recoveries in the MS, DMS, and associated Laboratory Control Sample (LCS) were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

The spike recovery of Total Cyanide for Laboratory Control Sample (LCS) 2 was outside the lower control criterion. Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method. The data was flagged to indicate the problem.

Total Metals

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike and matrix spike duplicate recoveries of Aluminum and Magnesium for the Batch QC sample were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recoveries.

Approved by _____ **Date** 12/13/11

Antimony recoveries are generally low for soil and sediment samples when digested using EPA Method 3050B. Despite anticipated low recoveries, the method is still generally prescribed because of its versatility for general metals analysis. Antimony results (in conjunction with the matrix spike recovery) from this procedure should only be used as indicators to estimate concentrations. The matrix spike and matrix spike duplicate recoveries of Antimony for the Batch QC sample were below the project specified control criterion. Since low recoveries resulted from a method defect and were possibly magnified by certain matrix components, no corrective action was appropriate. Alternative procedures that specifically target Antimony are available but were not specified for this project. The associated QA/QC results (e.g. control sample, calibration standards, etc.) indicated the analysis was in control.

The matrix spike duplicate recovery of Manganese for the Batch QC sample was outside the project specified control criteria as a result of the heterogeneous character of the sample. Since the unspiked samples contained high analyte concentrations relative to the amount spiked, the variability between replicates was sufficient to bias the percent recovery outside the control criteria. The associated QA/QC results (e.g. control sample, calibration standards, etc.) indicated the analysis was in control. No further corrective action was appropriate.

Formaldehyde by EPA Method 8315

No anomalies associated with the analysis of these samples were observed.

Perchlorate by EPA Method 6850

Perchlorate analysis by EPA Method 6850 was performed at Columbia Analytical Services laboratory in Rochester, NY. The narrative for this analysis can be found in the corresponding section of this data package.

Approved by _____ **Date** 12/13/11

Chain of Custody

CHAIN of CUSTODY

Page ___ of ___

Columbia Analytical Services™

1317 S. 13th Avenue
Kelso, WA 98626
360.577.7222

Client: **URS Corporation**
915 Wilshire Blvd, Suite 700
Los Angeles, California 90017

Project Manager: **Tom Dolan**

Project: Santa Susana Field Laboratory - Chemical Soil Background Study

Telephone No.: 213-996-2200
Fax No.: 213-996-2456
Email: Tom_Dolan@urscorp.com

Method of Shipment:

Special Instructions:

Sample I.D.	Lab Sample No.	No. of Containers	Matrix: Soil / Water	Sampling Date	Sampling Time	PAHs, Phthalates by EPA 8270C, 8270C (SIM)	Pesticides by 8081A	Herbicides by EPA 8151A	Methanol/Ethanol by EPA 8015	Cyanide by EPA 9012A	Formaldehyde by EPA 8315/ASTM D6303	Metals by EPA 6010B/6020A	Mercury by EPA 7471A/7470A	Hexavalent Chromium by EPA 7199/7164A	Fluoride EPA 300.0/9056A	Nitrate by EPA 353.2 Mod./EPA 300.0	Perchlorate by EPA 6850/6860	Moisture Content by EPA 160.3				QA/QC Split	MS / MSD
CZBS0054S005 Soil	6443381	2	S	10/19/11	12:25					X	X	X	X	X	X	X	X	X					

Sample Received Intact: Yes No

Temperature Received: °C

Custody Seal Intact? Yes No None

Reling. by sampler (Sign & Print Name)

Received by (Sign & Print Name)

Relinquished by: Kathy Binkley — 10-20-11 1500

Received by

Relinquished by

Received by

Relinquished by

Received by laboratory — Date 10/21/11 Time 0900

Lab Work No.: K1110227

9

A11312 / 1272243 / 6443366-84

CHAIN of CUSTODY

Lancaster Laboratories

2430 New Holland Pike
Landcaster, PA 17601
717.656.2300

Page 1 of 2

Client: URS Corporation
915 Wilshire Blvd, Suite 700
Los Angeles, California 90017

Project Manager: Tom Dolan

Project: Santa Susana Field Laboratory - Chemical Soil Background Study

Telephone No. 213-996-2200 | Fax No. 213-996-2456 | Email: Tom_Dolan@urscorp.com

Method of Shipment: DYNAMEX

Special Instructions:
TRIP BLANK SAMPLE IN COOLER WITH SAMPLES TO BE ANALYZED BY EPA 8015

3 COOLERS

Sample I.D.	Lab Sample No.	No. of Containers	Matrix: Soil / Water	Sampling Date	Sampling Time	PAHs, Phthalates by EPA 8270C, 8270C (SIM)	Dioxins/Furans by EPA 1613B	Pesticides by 8081A	Herbicides by EPA 8151A	Methanol/Ethanol by EPA 8015	Cyanide by EPA 9021B	Formaldehyde by EPA 8315/ASTM D6303	Metals by EPA 6010B/6020A	Mercury by EPA 7471A/7470A	Hexavalent Chromium by EPA 7199/7164A	Fluoride EPA 300.0/9056A	Nitrate by EPA 353.2 Mod./EPA 300.0	Perchlorate by EPA 6850/6860	Grain Size by ASTM D421/D422	Moisture Content by EPA 160.3			QA/QC Split	MS / MSD
CZBS00605005		12	S	10/19/11	0825	X	X	X	X		X	X	X	X	X	X	X	X	X	X				X
CZBS00605075		4	S		0858					X	X	X	X	X	X	X	X	X	X	X				
CZBS00425005		4	S		0911	X	X	X	X		X	X	X	X	X	X	X	X	X	X				
CZBS00425035		4	S		0920					X	X	X	X	X	X	X	X	X	X	X				
CZBS00415005		4	S		0945	X	X	X	X		X	X	X	X	X	X	X	X	X	X				
CZBS00415040		4	S		0955					X	X	X	X	X	X	X	X	X	X	X				
CZBS00605005		4	S		1016	X	X	X	X		X	X	X	X	X	X	X	X	X	X				
CZBS00615005		4	S		1101					X	X	X	X	X	X	X	X	X	X	X				
CZBS00545005		6	S		1225						X	X	X	X	X	X	X	X	X	X			X	
CZBS00545D005		3	S		1225						X	X	X	X	X	X	X	X		X				
CZBS00535005		12	S		1243	X	X	X	X		X	X	X	X	X	X	X	X	X	X				X
CZBS00525005		3	S		1305						X	X	X	X	X	X	X	X	X	X				
CZBS00555005		4	S		1316	X	X	X	X		X	X	X	X	X	X	X	X	X	X				
CZBS00565005		3	S	↓	1400						X	X	X	X	X	X	X	X	X	X				

Sample Received Intact: Yes No

Temperature Received: °C

Custody Seal Intact? Yes No None

Relinq. by sampler (Sign & Print Name)	ERICA WEAVER	1523	Received by (Sign & Print Name) DOUGLAS J SHRIEKS
Relinquished by		1528	Received by 307 Dynamex 10/19/11
Relinquished by			Received by
Relinquished by			Received by laboratory Date 10/20/11 Time 0915

Lab Work No.

10

A11312 / 1272243 / 6443366-84

Lancaster Laboratories

2430 New Holland Pike
Landcaster, PA 17601
717.656.2300

CHAIN of CUSTODY

Client: URS Corporation
915 Wilshire Blvd, Suite 700
Los Angeles, California 90017

Project Manager: Tom Dolan

Project: Santa Susana Field Laboratory - Chemical Soil Background Study

Telephone No. 213-996-2200
Fax No. 213-996-2456
Email: Tom_Dolan@urscorp.com

Method of Shipment: DYNAMEX

Special Instructions: 3 COOLERS

Sample I.D.	Lab Sample No.	No. of Containers	Matrix: Soil / Water	Sampling Date	Sampling Time	PAHs, Phthalates by EPA 8270C, 8270C (SIM)	Dioxins/Furans by EPA 1613B	Pesticides by 8081A	Herbicides by EPA 8151A	Methanol/Ethanol by EPA 8015	Cyanide by EPA 9021B	Formaldehyde by EPA 8315/ASTM D6303	Metals by EPA 6010B/6020A	Mercury by EPA 7471A/7470A	Hexavalent Chromium by EPA 7199/7164A	Fluoride EPA 300.0/9056A	Nitrate by EPA 353.2 Mod./EPA 300.0	Perchlorate by EPA 6850/6860	Grain Size by ASTM D421/D422	Moisture Content by EPA 160.3	QA/QC Split	MS / MSD
EBQW00014		13	W	10/19/11	1560	X	X	X	X	X	X	X	X	X	X	X	X	X				
TBQW00018		2	W	↓	0800					X												

Sample Received Intact: Yes No

Temperature Received: °C

Custody Seal Intact? Yes No None

Relinq. by sampler (Sign & Print Name) ERICH WEAVER 1523

Relinquished by Douglas R Shell 1528

Relinquished by

Relinquished by

Received by (Sign & Print Name) Douglas I Shieers

Received by 307 Dynamex 10/19/11

Received by

Received by laboratory Dwight Lehman Date 10/20/11 Time 0915

Lab Work No.

11

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LdH

Client / Project: URS Service Request K11 10227

Received: 10/21/11 Opened: 10/21/11 By: SDW Unloaded: 10/21/11 By: SDW

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.6	1.7	314		5035 4227 8679	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

SHORT HOLD TIME

*Notes, Discrepancies, & Resolutions:*_____

Page 1 *of*_____

Total Solids

Analytical Results

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
CZBS0054S005 Soil	K1110227-001	10/19/2011	10/21/2011	10/28/2011	91.3	

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: 10/19/2011
Date Received: 10/21/2011
Date Analyzed: 10/28/2011

Duplicate Sample Summary
Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
CZBS0054S005 Soil	K1110227-001	91.3	91.5	91.4	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

Group ID:	KWG1110966	Run # 267184		**Reviewed By:**	BDK
Analyst:	RAmaral				
Date Acquired:	10/28/2011 00:00	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	10/31/11
Date Completed:	10/28/2011 00:00	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K1109857-008	Composite	PAPERBOA	2.58g	8.48g	8.26g	96.3		K-BALANCE-16
2	K1109932-001	CSTR-5-PW_(0-1)_Composite_Sed	SEDIMENT	1.28g	12.12g	8.12g	63.1		K-BALANCE-16
3	K1109987-006	Papermachine 1-2 Composite	PAPERBOA	2.59g	9.33g	9.02g	95.4		K-BALANCE-16
4	K1110053-001	MC-X4750Y5350-R-MPS2S	SOIL	1.29g	13.38g	13.24g	98.8		K-BALANCE-16
5	K1110053-002	MC-X4850Y5550-B-MPS1S	SOIL	1.33g	13.14g	12.95g	98.4		K-BALANCE-16
6	K1110055-001	MC-X4750Y5350-W-MPS2S	SOIL	1.33g	14.33g	13.52g	93.8		K-BALANCE-16
7	K1110098-001	Henkel-33-144A	PULP SHEET	1.30g	5.15g	4.97g	95.3		K-BALANCE-16
8	K1110098-002	34-26-26	PULP SHEET	1.30g	5.02g	4.86g	95.7		K-BALANCE-16
9	K1110098-003	42-30-42	PULP SHEET	1.30g	5.34g	5.13g	94.8		K-BALANCE-16
10	K1110098-004	42-40-42	PULP SHEET	1.30g	4.68g	4.51g	95.0		K-BALANCE-16
11	K1110098-005	Henkel-33-9201	PULP SHEET	1.30g	4.28g	4.12g	94.6		K-BALANCE-16
12	K1110125-001	11B-0306-C3AS	SEDIMENT	1.31g	15.59g	8.15g	47.9		K-BALANCE-16
13	K1110125-002	11B-0306-C1BS	SEDIMENT	1.27g	18.18g	9.65g	49.6		K-BALANCE-16
14	K1110125-003	11B-0306-C1CS	SEDIMENT	1.28g	14.88g	8.73g	54.8		K-BALANCE-16
15	K1110125-004	11B-0306-C3DS	SEDIMENT	1.28g	15.33g	7.34g	43.1		K-BALANCE-16
16	K1110125-005	11B-0306-C3ES	SEDIMENT	1.28g	19.62g	11.39g	55.1		K-BALANCE-16
17	K1110125-006	11B-0306-C3ET	SEDIMENT	1.29g	13.94g	7.99g	53.0		K-BALANCE-16
18	K1110125-007	11B-0306-C3FS	SEDIMENT	1.29g	13.61g	8.83g	61.2		K-BALANCE-16
19	K1110125-008	11B-0306-C3GS	SEDIMENT	1.31g	13.00g	7.02g	48.8		K-BALANCE-16
20	K1110125-009	11B-0306-C3HS	SEDIMENT	1.30g	14.39g	7.51g	47.4		K-BALANCE-16
21	K1110125-010	11B-0306-C3IS	SEDIMENT	1.30g	13.88g	8.00g	53.3		K-BALANCE-16

Group ID:	KWG1110966		
Analyst:	RAmaral	**Reviewed By:**	BDL
Date Acquired:	10/28/2011 00:00	**Oven TempStart:** 105 DEG C	**Date Reviewed:** 10/31/11
Date Completed:	10/28/2011 00:00	**Oven TempEnd:** 105 DEG C	

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
22	K1110125-011	11B-0306-C3JS	SEDIMENT	1.29g	16.04g	11.54g	69.5		K-BALANCE-16
23	K1110227-001	CZBS0054S005 Soil	SOIL	1.30g	13.52g	12.46g	91.3		K-BALANCE-16
24	K1110261-001	SI38SS001-0.8	SOIL	1.31g	12.18g	11.32g	92.1		K-BALANCE-16
25	K1110261-002	SI38SS002-3.8	SOIL	1.31g	11.72g	9.63g	79.9		K-BALANCE-16
26	K1110261-003	SI38SS002-4.7	SOIL	1.31g	14.24g	11.94g	82.2		K-BALANCE-16
27	K1110261-004	SI38SS003-0.8	SOIL	1.32g	12.58g	11.59g	91.2		K-BALANCE-16
28	K1110261-005	SI38SS004-1.5	SOIL	1.30g	11.80g	7.92g	63.0		K-BALANCE-16
29	K1110261-006	SI38SS004-0.5	SOIL	1.28g	11.83g	8.00g	63.7		K-BALANCE-16
30	K1110261-007	SI38SS005-2.5	SOIL	1.30g	13.36g	12.05g	89.1		K-BALANCE-16
31	K1110261-008	SI38SS007-1.0	SOIL	1.30g	15.89g	14.40g	89.8		K-BALANCE-16
32	K1110261-009	SI38SS007-2.2	SOIL	1.30g	12.44g	10.86g	85.8		K-BALANCE-16
33	K1110261-010	SI38SS008-1.8	SOIL	1.31g	11.50g	10.09g	86.2		K-BALANCE-16
34	K1110261-011	SI38SS008-4.2	SOIL	1.30g	13.50g	10.73g	77.3		K-BALANCE-16
35	K1110261-012	SI40SS001-6.0	SOIL	1.31g	13.03g	10.16g	75.5		K-BALANCE-16
36	K1110261-013	SI40SS002-2.0	SOIL	1.29g	12.80g	9.84g	74.3		K-BALANCE-16
37	K1110261-014	SI40SS003-4.0	SOIL	1.30g	15.60g	11.35g	70.3		K-BALANCE-16
38	K1110261-016	SI40SS004-7.0	SOIL	1.31g	16.43g	13.27g	79.1		K-BALANCE-16
39	K1110261-018	SI40SS005-4.0	SOIL	1.30g	14.71g	12.30g	82.0		K-BALANCE-16
40	K1110261-019	SI40SS005-7.0	SOIL	1.31g	12.20g	9.53g	75.5		K-BALANCE-16
41	K1110261-020	SI40SS006-2.0	SOIL	1.31g	18.52g	15.02g	79.7		K-BALANCE-16
42	K1110261-021	SI40SS007-2.0	SOIL	1.29g	11.37g	10.26g	89.0		K-BALANCE-16
43	K1110261-022	SI40SS008-2.0	SOIL	1.31g	12.92g	11.63g	88.9		K-BALANCE-16
44	K1110261-023	SI40SS009-2.5	SOIL	1.32g	15.17g	12.15g	78.2		K-BALANCE-16
45	KWG1110966-1	Duplicate Client Sample	PAPERBOA	2.61g	9.08g	8.81g	95.8	K1109857-008	K-BALANCE-16 $\bar{x}$=96.0 RPD L1
46	KWG1110966-10	Duplicate Client Sample	SEDIMENT	1.30g	14.31g	12.02g	82.4	K1110261-003	K-BALANCE-16 $\bar{x}$=82.3 RPD L1
47	KWG1110966-11	Duplicate Client Sample	PAPERBOA	1.30g	13.77g	10.96g	77.5	K1110261-011	K-BALANCE-16 $\bar{x}$=77.8 RPD L1
48	KWG1110966-12	Duplicate Client Sample	SOIL	1.31g	12.80g	11.50g	88.7	K1110261-022	K-BALANCE-16 $\bar{x}$=88.8 RPD L1
49	KWG1110966-2	Duplicate Client Sample	SOIL	1.30g	12.26g	8.17g	62.7	K1109932-001	K-BALANCE-16 $\bar{x}$=62.9 RPD L1
50	KWG1110966-3	Duplicate Client Sample	PULP SHEET	2.61g	9.29g	9.02g	96.0	K1109987-006	K-BALANCE-16 $\bar{x}$=95.7 RPD L1

Group ID:	KWG1110966				
Analyst:	RAmaral			**Reviewed By:**	BDK
Date Acquired:	10/28/2011 00:00	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	10/31/11
Date Completed:	10/28/2011 00:00	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
51	KWG1110966-4	Duplicate Client Sample	SEDIMENT	1.30g	13.62g	13.50g	99.0	K1110053-001	K-BALANCE-16 $\bar{x}$= 98.9 RPD <1
52	KWG1110966-5	Duplicate Client Sample	SEDIMENT	1.30g	14.43g	13.64g	94.0	K1110055-001	K-BALANCE-16 $\bar{x}$= 93.9 RPD <1
53	KWG1110966-6	Duplicate Client Sample	SOIL	1.30g	5.22g	5.04g	95.4	K1110098-001	K-BALANCE-16 $\bar{x}$= 95.5 RPD <1
54	KWG1110966-7	Duplicate Client Sample	SOIL	1.31g	14.27g	7.47g	47.5	K1110125-001	K-BALANCE-16 $\bar{x}$= 47.7 RPD <1
55	KWG1110966-8	Duplicate Client Sample	SOIL	1.30g	13.71g	8.96g	61.7	K1110125-007	K-BALANCE-16 $\bar{x}$= 61.5 RPD <1
56	KWG1110966-9	Duplicate Client Sample	SOIL	1.32g	13.54g	12.50g	91.5	K1110227-001	K-BALANCE-16 $\bar{x}$= 91.4 RPD <1

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Analytical Results Summary

Instrument Name: K-Balance-16 **Analyst:** RAMARAL **Analysis Lot:** 267184 **Method/Testcode:** TS-MET/Total Solids

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1109857-008	Solids, Total	N/A		Paperboard	96.30 Percent	g	96.3 Percent	1					10/29/11 00:00:00	N	V
1109932-001	Solids, Total	N/A		Sediment	63.10 Percent	g	63.1 Percent	1					10/29/11 00:00:00	N	V
1109987-006	Solids, Total	N/A		Paperboard	95.40 Percent	g	95.4 Percent	1					10/29/11 00:00:00	N	V
1110053-001	Solids, Total	N/A		Soil	98.80 Percent	g	98.8 Percent	1					10/29/11 00:00:00	N	IV
1110053-002	Solids, Total	N/A		Soil	98.40 Percent	g	98.4 Percent	1					10/29/11 00:00:00	N	IV
1110055-001	Solids, Total	N/A		Soil	93.80 Percent	g	93.8 Percent	1					10/29/11 00:00:00	N	IV
1110098-001	Solids, Total	N/A		Pulp Sheet	95.30 Percent	g	95.3 Percent	1					10/29/11 00:00:00	N	II
1110098-002	Solids, Total	N/A		Pulp Sheet	95.70 Percent	g	95.7 Percent	1					10/29/11 00:00:00	N	II
1110098-003	Solids, Total	N/A		Pulp Sheet	94.80 Percent	g	94.8 Percent	1					10/29/11 00:00:00	N	II
1110098-004	Solids, Total	N/A		Pulp Sheet	95.00 Percent	g	95.0 Percent	1					10/29/11 00:00:00	N	II
1110098-005	Solids, Total	N/A		Pulp Sheet	94.60 Percent	g	94.6 Percent	1					10/29/11 00:00:00	N	II
1110125-001	Solids, Total	N/A		Sediment	47.90 Percent	g	47.9 Percent	1					10/29/11 00:00:00	N	V
1110125-002	Solids, Total	N/A		Sediment	49.60 Percent	g	49.6 Percent	1					10/29/11 00:00:00	N	V
1110125-003	Solids, Total	N/A		Sediment	54.80 Percent	g	54.8 Percent	1					10/29/11 00:00:00	N	V
1110125-004	Solids, Total	N/A		Sediment	43.10 Percent	g	43.1 Percent	1					10/29/11 00:00:00	N	V
1110125-005	Solids, Total	N/A		Sediment	55.10 Percent	g	55.1 Percent	1					10/29/11 00:00:00	N	V
1110125-006	Solids, Total	N/A		Sediment	53.00 Percent	g	53.0 Percent	1					10/29/11 00:00:00	N	V
1110125-007	Solids, Total	N/A		Sediment	61.20 Percent	g	61.2 Percent	1					10/29/11 00:00:00	Y	V
1110125-008	Solids, Total	N/A		Sediment	48.80 Percent	g	48.8 Percent	1					10/29/11 00:00:00	N	V
1110125-009	Solids, Total	N/A		Sediment	47.40 Percent	g	47.4 Percent	1					10/29/11 00:00:00	N	V
1110125-010	Solids, Total	N/A		Sediment	53.30 Percent	g	53.3 Percent	1					10/29/11 00:00:00	N	V
1110125-011	Solids, Total	N/A		Sediment	69.50 Percent	g	69.5 Percent	1					10/29/11 00:00:00	N	V
1110227-001	Solids, Total	N/A		Soil	91.30 Percent	g	91.3 Percent	1					10/29/11 00:00:00	N	V
1110261-001	Solids, Total	N/A		Soil	92.10 Percent	g	92.1 Percent	1					10/29/11 00:00:00	N	V
1110261-002	Solids, Total	N/A		Soil	79.90 Percent	g	79.9 Percent	1					10/29/11 00:00:00	N	V
1110261-003	Solids, Total	N/A		Soil	82.20 Percent	g	82.2 Percent	1					10/29/11 00:00:00	N	V
1110261-004	Solids, Total	N/A		Soil	91.20 Percent	g	91.2 Percent	1					10/29/11 00:00:00	N	V
1110261-005	Solids, Total	N/A		Soil	63.00 Percent	g	63.0 Percent	1					10/29/11 00:00:00	N	V
1110261-006	Solids, Total	N/A		Soil	63.70 Percent	g	63.7 Percent	1					10/29/11 00:00:00	N	V
1110261-007	Solids, Total	N/A		Soil	89.10 Percent	g	89.1 Percent	1					10/29/11 00:00:00	N	V
1110261-008	Solids, Total	N/A		Soil	89.80 Percent	g	89.8 Percent	1					10/29/11 00:00:00	N	V
1110261-009	Solids, Total	N/A		Soil	85.80 Percent	g	85.8 Percent	1					10/29/11 00:00:00	N	V
1110261-010	Solids, Total	N/A		Soil	86.20 Percent	g	86.2 Percent	1					10/29/11 00:00:00	N	V
1110261-011	Solids, Total	N/A		Soil	77.70 Percent	g	77.7 Percent	1					10/29/11 00:00:00	N	V
1110261-012	Solids, Total	N/A		Soil	75.50 Percent	g	75.5 Percent	1					10/29/11 00:00:00	N	V
1110261-013	Solids, Total	N/A		Soil	74.30 Percent	g	74.3 Percent	1					10/29/11 00:00:00	N	V

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

EE. BDK 10/31/11

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Analytical Results Summary

Instrument Name: K-Balance-16 **Analyst:** RAMARAL **Analysis Lot:** 267184 **Method/Testcode:** TS-MET/Total Solids

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1110261-014	Solids, Total	N/A		Soil	70.30 Percent	g	70.3 Percent	1					10/29/11 00:00:00	N	V
1110261-016	Solids, Total	N/A		Soil	79.10 Percent	g	79.1 Percent	1					10/29/11 00:00:00	N	V
1110261-018	Solids, Total	N/A		Soil	82.00 Percent	g	82.0 Percent	1					10/29/11 00:00:00	N	V
1110261-019	Solids, Total	N/A		Soil	75.50 Percent	g	75.5 Percent	1					10/29/11 00:00:00	N	V
1110261-020	Solids, Total	N/A		Soil	79.70 Percent	g	79.7 Percent	1					10/29/11 00:00:00	N	V
1110261-021	Solids, Total	N/A		Soil	89.00 Percent	g	89.0 Percent	1					10/29/11 00:00:00	N	V
1110261-022	Solids, Total	N/A		Soil	88.90 Percent	g	88.9 Percent	1					10/29/11 00:00:00	N	V
1110261-023	Solids, Total	N/A		Soil	78.20 Percent	g	78.2 Percent	1					10/29/11 00:00:00	N	V
Q1111833-01	Solids, Total	DUP	K1110261-022	Soil	88.70 Percent	g	88.7 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-02	Solids, Total	DUP	K1110261-011	Soil	77.50 Percent	g	77.5 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-04	Solids, Total	DUP	K1110125-007	Sediment	61.70 Percent	g	61.7 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-05	Solids, Total	DUP	K1110125-001	Sediment	47.50 Percent	g	47.5 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-06	Solids, Total	DUP	K1110098-001	Pulp Sheet	95.40 Percent	g	95.4 Percent	1				<1	10/29/11 00:00:00	N	II
Q1111833-07	Solids, Total	DUP	K1110053-001	Soil	99.00 Percent	g	99.0 Percent	1				<1	10/29/11 00:00:00	N	IV
Q1111833-08	Solids, Total	DUP	K1110055-001	Soil	94.00 Percent	g	94.0 Percent	1				<1	10/29/11 00:00:00	N	IV
Q1111833-09	Solids, Total	DUP	K1109857-008	Paperboard	95.80 Percent	g	95.8 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-10	Solids, Total	DUP	K1109932-001	Sediment	62.70 Percent	g	62.7 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-11	Solids, Total	DUP	K1109987-006	Paperboard	96.00 Percent	g	96.0 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-12	Solids, Total	DUP	K1110261-003	Soil	82.40 Percent	g	82.4 Percent	1				<1	10/29/11 00:00:00	N	V
Q1111833-13	Solids, Total	DUP	K1110227-001	Soil	91.50 Percent	g	91.5 Percent	1				<1	10/29/11 00:00:00	N	V

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BDK
10/31/11

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lynda Huckestein

Project Name: Santa Susana Field Laboratory
Project Number:
Project Manager: Lily Bayati
Company: URS Corporation

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	ClO4 6850
K1110227-001	CZBS0054S005 Soil	1-4oz jar	Soil	10/19/11	1225	10/21/11	ROCHESTER	V

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Test Comments

ClO4 - 6850 K1110227-001 Performed at CAS/Rochester

Folder Comments:

NOTE VERY LIMITED SAMPLE MASS. Logins will be added on to each week. An additional LCS spiked at the MRL is also required for each batch.

need ice

Special Instructions/Comments

Please provide the electronic (PDF and EDD) report to the following e-mail address:
kelso_data@caslab.com

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

X **STANDARD**

Requested FAX Date: _____

Requested Report Date: 11/07/11

Report Requirements

____ I. Results Only

____ II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

PQL/MDL/J Y

EDD Y

Invoice Information

PO# K1110227

Bill to

Relinquished By: Sew 10/24/11 1130

Received By: _____

Airbill Number: _____

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/2011
Sample Matrix:	Soil	**Date Received:**	10/21/2011

Nitrate as Nitrogen

Prep Method:	CAS SOP	Units:	mg/Kg
Analysis Method:	353.2M/353.2M	Basis:	Dry
Test Notes:			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepped	Date Analyzed	Result	Result Notes
CZBS0054S005 Soil	K1110227-001	0.55	0.08	1	10/21/2011	10/21/2011	10.8	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/2011
Sample Matrix:	Soil	**Date Received:**	10/21/2011

pH

Prep Method:	NA	Units:	pH
Analysis Method:	9045C	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
Batch QC	K1110169-003	-	1	11/3/2011	7.64	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/2011
Sample Matrix:	Soil	**Date Received:**	10/21/2011

Oxidation-Reduction Potential (ORP)

Prep Method:	NA	Units:	mV
Analysis Method:	ASTM D1498-76	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
Batch QC	K1110169-003	-	1	11/3/2011	275	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Prepared:	NA
		Date Analyzed:	11/3/2011

Post Matrix Spike Summary
Chromium, Hexavalent

Sample Name:	Batch QC	Units:	mg/L (ppm)
Lab Code:	K1110169-003PS	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chromium, Hexavalent	EPA 3060A	7196A	0.5	0.40	0.0022	0.0137	113	85-115	

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/11
Sample Matrix:	Soil	**Date Received:**	10/21/11
Prep Method:	CAS SOP	**Units:**	mg/Kg
Analysis Method:	353.2M	**Basis:**	Dry

Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
CZBS0054S005 Soil	K1110227-001	**0.06**	J	0.27	0.03	1	10/21/11	10/21/11 14:24	
Method Blank	K1110227-MB1	**0.13**	J	0.25	0.02	1	10/21/11	10/21/11 14:24	

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: 10/19/11
Date Received: 10/21/11
Date Analyzed: 10/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: CZBS0054S005 Soil
Lab Code: K1110227-001

Units: mg/Kg
Basis: Dry

Analyte Name	Method	MRL	MDL	Sample Result	CZBS0054S005 SoilDUP Duplicate Sample K1110227-001DUP3 Result	Average	RPD	RPD Limit
Nitrite as Nitrogen	353.2M	0.27	0.03	0.06 J	0.07 J	0.0655	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample K1110227-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrite as Nitrogen	353.2M	3.91	4.00	98	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample K1110227-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Nitrite as Nitrogen	353.2M	0.489	0.50	98	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample K1110227-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Nitrite as Nitrogen	353.2M	0.0527	0.05	105	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Verification (CCV) Summary
Nitrite as Nitrogen

Analytical Method: 353.2M
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	266322	KQ1111529-06	10/21/11 14:24	2.00	1.95	98	90 - 110
CCV2	266322	KQ1111529-07	10/21/11 14:24	2.00	1.95	98	90 - 110

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Blank (CCB) Summary
Nitrite as Nitrogen

Analytical Method: 353.2M
Units: mg/Kg

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	266322	KQ1111529-04	10/21/11 14:24	0.02	0.25	ND	U
CCB2	266322	KQ1111529-05	10/21/11 14:24	0.02	0.25	ND	U

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/11
Sample Matrix:	Soil	**Date Received:**	10/21/11
Prep Method:	CAS SOP	**Units:**	mg/Kg
Analysis Method:	353.2M	**Basis:**	Dry

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
CZBS0054S005 Soil	K1110227-001	**10.9**		0.55	0.08	1	10/21/11	10/21/11 13:35	
Method Blank	K1110227-MB1	**0.16**	J	0.50	0.07	1	10/21/11	10/21/11 13:35	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: 10/19/11
Date Received: 10/21/11
Date Analyzed: 10/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: CZBS0054S005 Soil
Lab Code: K1110227-001

Units: mg/Kg
Basis: Dry

Analyte Name	Method	MRL	MDL	Sample Result	CZBS0054S005 SoilDUP Duplicate Sample K1110227-001DUP3 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2M	0.55	0.08	10.9	10.7	10.8	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: 10/19/11
Date Received: 10/21/11
Date Analyzed: 10/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: CZBS0054S005 Soil
Lab Code: K1110227-001

Units: mg/Kg
Basis: Dry

Analytical Method: 353.2M
Prep Method: CAS SOP

CZBS0054S005 SoilMS
Matrix Spike
K1110227-001MS3

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	10.9	581	543	105	86 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample K1110227-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2M	18.1	17.7	102	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample K1110227-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2M	0.547	0.53	103	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2M
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	266338	KQ1111537-03	10/21/11 13:35	2.00	1.95	98	90 - 110
CCV2	266338	KQ1111537-04	10/21/11 13:35	2.00	1.95	98	90 - 110

Client: URS Corporation **Service Request:** K1110227
Project: Santa Susana Field Laboratory

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2M **Units:** mg/Kg

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	266338	KQ1111537-01	10/21/11 13:35	0.07	0.50	ND	U
CCB2	266338	KQ1111537-02	10/21/11 13:35	0.07	0.50	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/11
Sample Matrix:	Soil	**Date Received:**	10/21/11
Prep Method:	EPA 3060A	**Units:**	mg/Kg
Analysis Method:	7196A	**Basis:**	Dry

Chromium, Hexavalent

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
CZBS0054S005 Soil	K1110227-001	ND	U	27	5	50	10/31/11	11/3/11 16:25	
Method Blank	K1110227-MB1	ND	U	0.50	0.08	1	10/31/11	11/3/11 16:25	
Method Blank	K1110227-MB2	ND	U	0.50	0.08	1	10/31/11	11/3/11 16:25	

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: NA
Date Received: NA
Date Analyzed: 11/ 3/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1110169-003

Units: mg/Kg
Basis: Dry

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1110169-003DUP1 Result	Average	RPD	RPD Limit
Chromium, Hexavalent	7196A	26	5	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: NA
Date Received: NA
Date Analyzed: 11/ 3/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1110169-003

Units: mg/Kg
Basis: Dry

Analytical Method: 7196A
Prep Method: EPA 3060A

		Batch QCMS Matrix Spike K1110169-003MS1			Batch QCDMS Duplicate Matrix Spike K1110169-003DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chromium, Hexavalent	ND	ND	21	0 *	ND	41	0 *	75 - 125	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 11/ 3/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

		Lab Control Sample K1110227-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Chromium, Hexavalent	7196A	134	145	93	80 - 120

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Verification (CCV) Summary
Chromium, Hexavalent

Analytical Method: 7196A
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	268231	KQ1112180-09	11/3/11 16:25	0.500	0.499	100	90 - 110
CCV2	268231	KQ1112180-10	11/3/11 16:25	0.500	0.498	100	90 - 110
CCV3	268231	KQ1112180-11	11/3/11 16:25	0.500	0.497	99	90 - 110
CCV4	268231	KQ1112180-12	11/3/11 16:25	0.500	0.495	99	90 - 110
CCV5	268231	KQ1112180-13	11/3/11 16:25	0.500	0.498	100	90 - 110
CCV6	268231	KQ1112180-14	11/3/11 16:25	0.500	0.502	100	90 - 110
CCV7	268231	KQ1112180-15	11/3/11 16:25	0.500	0.489	98	90 - 110
CCV8	268231	KQ1112180-16	11/3/11 16:25	0.500	0.479	96	90 - 110

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Blank (CCB) Summary
Chromium, Hexavalent

Analytical Method: 7196A
Units: mg/Kg

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	268231	KQ1112180-01	11/3/11 16:25	0.08	0.50	ND	U
CCB2	268231	KQ1112180-02	11/3/11 16:25	0.08	0.50	ND	U
CCB3	268231	KQ1112180-03	11/3/11 16:25	0.08	0.50	ND	U
CCB4	268231	KQ1112180-04	11/3/11 16:25	0.08	0.50	ND	U
CCB5	268231	KQ1112180-05	11/3/11 16:25	0.08	0.50	ND	U
CCB6	268231	KQ1112180-06	11/3/11 16:25	0.08	0.50	ND	U
CCB7	268231	KQ1112180-07	11/3/11 16:25	0.08	0.50	ND	U
CCB8	268231	KQ1112180-08	11/3/11 16:25	0.08	0.50	ND	U

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/11
Sample Matrix:	Soil	**Date Received:**	10/21/11
Prep Method:	Method	**Units:**	mg/Kg
Analysis Method:	9012A	**Basis:**	Dry

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
CZBS0054S005 Soil	K1110227-001	**0.28**		0.15	0.06	1	10/28/11	10/29/11 15:45	
Method Blank	K1110227-MB1	ND	U	0.20	0.06	1	10/28/11	10/29/11 15:45	

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: NA
Date Received: NA
Date Analyzed: 10/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1110174-012

Units: mg/Kg
Basis: Dry

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1110174-012DUP2 Result	Average	RPD	RPD Limit
Cyanide, Total	9012A	0.11	0.06	0.067 J	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: NA
Date Received: NA
Date Analyzed: 10/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1110174-012

Units: mg/Kg
Basis: Dry

Analytical Method: 9012A
Prep Method: Method

		Batch QCMS Matrix Spike K1110174-012MS2			Batch QCDMS Duplicate Matrix Spike K1110174-012DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.067	1.09	1.82	56	2.04	2.28	86	10 - 165	42 *	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

		Lab Control Sample K1110227-LCS1			Duplicate Lab Control Sample K1110227-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	9012A	55.2	53.3	104	57.2	53.3	107	78 - 110	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample K1110227-LCS2 Result	Spike Amount	% Rec		% Rec Limits
Cyanide, Total	9012A	ND	0.20	0	*	78 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227

Continuing Calibration Verification (CCV) Summary
Cyanide, Total

Analytical Method: 9012A

Units: µg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	267360	KQ1111935-11	10/29/11 15:45	100	100	100	90 - 110
CCV2	267360	KQ1111935-12	10/29/11 15:45	100	99.6	100	90 - 110
CCV3	267360	KQ1111935-13	10/29/11 15:45	100	99.8	100	90 - 110
CCV4	267360	KQ1111935-14	10/29/11 15:45	100	99.7	100	90 - 110
CCV5	267360	KQ1111935-15	10/29/11 15:45	100	99.7	100	90 - 110
CCV6	267360	KQ1111935-16	10/29/11 15:45	100	99.1	99	90 - 110
CCV7	267360	KQ1111935-17	10/29/11 15:45	100	99.6	100	90 - 110
CCV8	267360	KQ1111935-18	10/29/11 15:45	100	99.7	100	90 - 110
CCV9	267360	KQ1111935-19	10/29/11 15:45	100	100	100	90 - 110
CCV10	267360	KQ1111935-20	10/29/11 15:45	100	100	100	90 - 110

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Blank (CCB) Summary
Cyanide, Total

Analytical Method: 9012A
Units: mg/Kg

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	267360	KQ1111935-01	10/29/11 15:45	0.06	0.20	ND	U
CCB2	267360	KQ1111935-02	10/29/11 15:45	0.06	0.20	ND	U
CCB3	267360	KQ1111935-03	10/29/11 15:45	0.06	0.20	ND	U
CCB4	267360	KQ1111935-04	10/29/11 15:45	0.06	0.20	ND	U
CCB5	267360	KQ1111935-05	10/29/11 15:45	0.06	0.20	ND	U
CCB6	267360	KQ1111935-06	10/29/11 15:45	0.06	0.20	ND	U
CCB7	267360	KQ1111935-07	10/29/11 15:45	0.06	0.20	ND	U
CCB8	267360	KQ1111935-08	10/29/11 15:45	0.06	0.20	ND	U
CCB9	267360	KQ1111935-09	10/29/11 15:45	0.06	0.20	ND	U
CCB10	267360	KQ1111935-10	10/29/11 15:45	0.06	0.20	ND	U

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/11
Sample Matrix:	Soil	**Date Received:**	10/21/11
Prep Method:	CAS SOP	**Units:**	mg/Kg
Analysis Method:	9056	**Basis:**	Dry

Fluoride

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
CZBS0054S005 Soil	K1110227-001	**2.4**	J	4.4	0.07	2	11/ 1/11	10/31/11 17:22	
Method Blank	K1110227-MB1	ND	U	2.0	0.03	1	11/ 1/11	10/31/11 13:38	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 10/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

		Lab Control Sample K1110227-LCS1			Duplicate Lab Control Sample K1110227-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Fluoride	9056	157	162	97	161	162	99	85 - 115	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Verification (CCV) Summary
Fluoride

Analytical Method: 9056
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	267615	KQ1111977-01	10/31/11 09:10	5.00	5.27	105	90 - 110
CCV2	267615	KQ1111977-02	10/31/11 11:10	5.00	5.28	106	90 - 110
CCV3	267615	KQ1111977-03	10/31/11 16:08	5.00	5.17	103	90 - 110
CCV4	267615	KQ1111977-04	10/31/11 19:07	5.00	5.17	103	90 - 110
CCV5	267615	KQ1111977-05	10/31/11 20:22	5.00	5.16	103	90 - 110

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Continuing Calibration Blank (CCB) Summary
Fluoride

Analytical Method: 9056
Units: mg/Kg

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	267615	KQ1111977-06	10/31/11 09:25	0.03	2.0	ND	U
CCB2	267615	KQ1111977-07	10/31/11 11:25	0.03	2.0	ND	U
CCB3	267615	KQ1111977-08	10/31/11 16:23	0.03	2.0	ND	U
CCB4	267615	KQ1111977-09	10/31/11 19:22	0.03	2.0	ND	U
CCB5	267615	KQ1111977-10	10/31/11 20:37	0.03	2.0	ND	U

Work Request # (K10164, K10212, K10227, K10363, K10467, K10544, K10594

Tier: IV I IV IV IV I IV

Date Analyzed: 11/3/11

Analyst: IF

Analysis: Cr6 (7196A)

MW # 268231

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no/NA
a.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
b.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
c.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
d.	Are results for methods blanks all ND?	yes/no/NA
e.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
f.	Are all exceptions explained?	yes/no/NA
6.	Are all service requests that apply attached?	yes/no/NA
7.	Are all samples labelled correctly?	yes/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	yes/no/NA
9.	Are detection limits and units reported correctly?	yes/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	yes/no/NA
11.	Is the unused space on the benchsheet crossed out?	yes/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

5.e. K10164 - 3 mS/mSD > % Rec. failed. based on QAP data
K10767 - 1 mS/1 MSD
samples were in reducing environment.

- Samples were diluted due to its high turbidity.

Final Approved by: ler Date: 11/4/11

DQREPORT

Analytical Results Summary

Instrument Name: K-UV-VIS-01 **Analyst:** IFRANKS **Analysis Lot:** 268231 **Method/Testcode:** 7196A/Cr6

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	As Received*	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tie
K1110169-001	Chromium, Hexavalent	N/A		Soil	0.01 mg/L	4.24	26 mg/Kg U	50	5	26			11/3/11 16:25:00	N	
K1110169-002	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	27 mg/Kg U	50	5	27			11/3/11 16:25:00	N	
K1110169-003	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	1.10	26 mg/Kg U	50	5	26			11/3/11 16:25:00	N	
K1110169-004	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	27 mg/Kg U	50	5	27			11/3/11 16:25:00	N	
K1110212-002	Chromium, Hexavalent	N/A		Soil	0.91 mg/L	91.35	91.3 mg/Kg	10	0.8	5.0			11/3/11 16:25:00	N	
K1110227-001	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	27 mg/Kg U	50	5	27			11/3/11 16:25:00	N	
K1110363-001	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	27 mg/Kg U	50	5	27			11/3/11 16:25:00	N	
K1110363-002	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	26 mg/Kg U	50	5	26			11/3/11 16:25:00	N	
K1110467-001	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	25 mg/Kg # U	50	4	25			11/3/11 16:25:00	N	
K1110511-001	Chromium, Hexavalent	N/A		Misc. Solid	-0.01 mg/L	-58.14	250 mg/Kg U	500	40	250			11/3/11 16:25:00	N	
K1110524-001	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	25 mg/Kg # U	50	4	25			11/3/11 16:25:00	N	
K1110524-002	Chromium, Hexavalent	N/A		Soil	0.00 mg/L	0.00	25 mg/Kg # U	50	4	25			11/3/11 16:25:00	N	
KQ1112117-01	Chromium, Hexavalent	ICB		Misc. Solid	-0.01 mg/L	-0.01	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112117-02	Chromium, Hexavalent	ICV		Misc. Solid	0.28 mg/L	0.28	0.280 mg/Kg	1	0.080	0.080			11/3/11 16:25:00	N	
KQ1112117-03	Chromium, Hexavalent	LCS		Misc. Solid	0.68 mg/L	134.45	134 mg/Kg	1	1.6	9.9	93		11/3/11 16:25:00	N	
KQ1112117-04	Chromium, Hexavalent	MB		Misc. Solid	-0.03 mg/L	-0.30	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112117-06	Chromium, Hexavalent	MB		Misc. Solid	-0.03 mg/L	-0.27	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112117-07	Chromium, Hexavalent	MS	K1110169-003	Soil	0.00 mg/L	1.63	2 mg/Kg	50	5	26	8*		11/3/11 16:25:00	N	
KQ1112117-08	Chromium, Hexavalent	DMS	K1110169-003	Soil	0.00 mg/L	0.74	0.8 mg/Kg	50	5	26	2*	120* M	11/3/11 16:25:00	N	
KQ1112117-09	Chromium, Hexavalent	DUP	K1110169-003	Soil	0.00 mg/L	0.95	26 mg/Kg U	50	5	26		NC	11/3/11 16:25:00	N	
KQ1112117-10	Chromium, Hexavalent	MS	K1110363-001	Soil	0.00 mg/L	0.00	27 mg/Kg U	50	5	27	0*		11/3/11 16:25:00	N	
KQ1112117-11	Chromium, Hexavalent	DMS	K1110363-001	Soil	0.01 mg/L	4.58	5 mg/Kg J	50	5	27	12*	200* M	11/3/11 16:25:00	N	
KQ1112117-12	Chromium, Hexavalent	DUP	K1110363-001	Soil	0.00 mg/L	0.00	27 mg/Kg U	50	5	27		NC	11/3/11 16:25:00	N	
KQ1112180-01	Chromium, Hexavalent	CCB		Soil	-0.01 mg/L	-0.09	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-02	Chromium, Hexavalent	CCB		Soil	-0.03 mg/L	-0.34	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-03	Chromium, Hexavalent	CCB		Soil	-0.04 mg/L	-0.35	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-04	Chromium, Hexavalent	CCB		Soil	-0.03 mg/L	-0.32	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-05	Chromium, Hexavalent	CCB		Soil	-0.02 mg/L	-0.23	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-06	Chromium, Hexavalent	CCB		Soil	-0.01 mg/L	-0.10	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-07	Chromium, Hexavalent	CCB		Soil	-0.04 mg/L	-0.40	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-08	Chromium, Hexavalent	CCB		Soil	-0.02 mg/L	-0.23	0.50 mg/Kg U	1	0.08	0.50			11/3/11 16:25:00	N	
KQ1112180-09	Chromium, Hexavalent	CCV		Soil	0.50 mg/L	4.99	0.499 mg/L	1					11/3/11 16:25:00	N	

59

* Not adjusted for changes in units
# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

lcr 11/4/11

Analytical Results Summary

Instrument Name: K-UV-VIS-01 **Analyst:** IFRANKS **Analysis Lot:** 268231 **Method/Testcode:** 7196A/Cr6

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	As Received*	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tie
KQ1112180-10	Chromium, Hexavalent	CCV		Soil	0.50 mg/L	4.98	0.498 mg/L	1					11/3/11 16:25:00	N	
KQ1112180-11	Chromium, Hexavalent	CCV		Soil	0.50 mg/L	4.97	0.497 mg/L	1					11/3/11 16:25:00	N	
KQ1112180-12	Chromium, Hexavalent	CCV		Soil	0.50 mg/L	4.95	0.495 mg/L	1					11/3/11 16:25:00	N	
KQ1112180-13	Chromium, Hexavalent	CCV		Soil	0.50 mg/L	4.98	0.498 mg/L	1					11/3/11 16:25:00	N	
KQ1112180-14	Chromium, Hexavalent	CCV		Soil	0.50 mg/L	5.02	0.502 mg/L	1					11/3/11 16:25:00	N	
KQ1112180-15	Chromium, Hexavalent	CCV		Soil	0.49 mg/L	4.89	0.489 mg/L	1					11/3/11 16:25:00	N	
KQ1112180-16	Chromium, Hexavalent	CCV		Soil	0.48 mg/L	4.79	0.479 mg/L	1					11/3/11 16:25:00	N	
KQ1112180-17	Chromium, Hexavalent	LCS		Soil	0.50 mg/L	0.50	0.499 mg/Kg	1	0.080	0.080			11/3/11 16:25:00	N	

LCS-LL (@ MRL) = 0.499 mg/kg

IF 11/4/11

lcv 11/4/11

60

* Not adjusted for changes in units
# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

DU520 S/N: 0112U2001732 1.03
03-NOV-11 16:26:17 SCA Group 4010
Wavelength: 540.0 nm
Formula: A=a+bC a: 0.0104 b: 0.6679

1625 PM
IF 11/3/11
CCG, K10169, K10227, K10363, K10467, K10571, K10212, K10524

Sample		Net A		Dil X	mg/L	
0001	ICB	0.006		1.0000	-0.0068	
0002	ICV	0.198		1.0000	0.2803	
0003	CCB1	0.005		1.0000	-0.0087	
0004	CCV1	0.343		1.0000	0.4987	
0005	MB1	-0.010		1.0000	-0.0300	
0006		0.402		1.0000	0.5870	NR
0007	LCS1	0.464		1.0000	0.6787	
0008		0.242		1.0000	0.3471	NR
0009	LCS-L1	0.344		1.0000	0.4990	
0010		0.383		1.0000	0.5583	NR
0011	K10169-1	0.041	1/50	1.0000	0.0465	-.0379=.0086
0012	-1BG	0.036		1.0000	0.0379	
0013	-2	-0.006		1.0000	-0.0251	
0014	-2BG	0.009		1.0000	-0.0283	
0015	-3	0.021		1.0000	0.0159	-.0137=.0022
0016	-3BG	0.020		1.0000	0.0137	
0017		0.033		1.0000	0.0337	NR
0018		0.020		1.0000	0.0140	
0019	CCB2	-0.012		1.0000	-0.0335	
0020	CCV2	0.343		1.0000	0.4977	
0021	MB2	-0.008		1.0000	-0.0270	
0022	K10169-3MS	0.041	1/50	1.0000	0.0461	-.0428=.0033
0023	-3MSBG	0.039		1.0000	0.0428	
0024	-3MSD	0.039		1.0000	0.0432	-.0417=.0015
0025	-3MSD BG	0.038		1.0000	0.0417	0.0137
0026	-3PS	0.172	1/50	1.0000	0.2420	-.0022 ÷ ~~.0137~~ 0.0137 = 0.2261
0027	-4	-0.013		1.0000	-0.0344	
0028	-4BG	-0.013		1.0000	-0.0344	
0029	K10227-1	0.004		1.0000	-0.0088	
0030	-1BG	0.010		1.0000	-0.0007	
0031	CCB3	0.013		1.0000	-0.0351	
0032	CCV3	0.342		1.0000	0.4970	
0033	K10363-1	-0.014	1/50	1.0000	-0.0360	
0034	-1BG	-0.014		1.0000	-0.0367	
0035	-1D	-0.014		1.0000	-0.0367	
0036	-1DBG	-0.014		1.0000	-0.0364	
0037	-1MS	-0.004		1.0000	-0.0216	
0038	-1MSBG	0.015		1.0000	-0.0379	
0039	-1MSD	0.017		1.0000	0.0093	
0040	-1MSD BG	0.014		1.0000	-0.0369	
0041	-1PS	0.152		1.0000	0.2126	
0042	-2	0.013		1.0000	-0.0345	
0043	CCB4	-0.011		1.0000	-0.0319	
0044	CCV4	0.341		1.0000	0.4954	
0045	K10363-2BG	0.014	1/50	1.0000	-0.0361	
0046	K10571-1	0.133	0.1/50	1.0000	0.1832	-.1950=-.0118
0047	-1BG	0.141		1.0000	0.1950	
0048	K10524-1	-0.018	1/50	1.0000	-0.0421	
0049	-1BG	0.018		1.0000	-0.0426	
0050	-2	-0.014		1.0000	-0.0371	
0051	-2BG	-0.014		1.0000	-0.0361	

0052	CCB4	-0.005		1.0000	-0.0230	
0053	CCV5	0.343		1.0000	0.4979	
0054	K10472-2	0.621	10x	1.0000	0.9143	
0055	CCB6	0.004		1.0000	-0.0098	
0056	CCV6	0.346		1.0000	0.5018	
0057		0.614		1.0000	0.9033	> MR
0058		0.621		1.0000	0.9149	
0059	IC10169-2RE	0.023	1/50	1.0000	0.0183	
0060	I -3R	0.024	↓	1.0000	0.0202	-.0183 = .0019
0061	CCB7	-0.017		1.0000	-0.0404	
0062	CCV7	0.337		1.0000	0.4886	
0063	IC10467-1	-0.005	1/50	1.0000	-0.0235	
0064	I -1R6	-0.006	↓	1.0000	-0.0249	
0065	CCB8	-0.005		1.0000	-0.0227	
0066	CCV8	0.330		1.0000	0.4789	

0 IF 11/3/11

% Rec IC10169-3PS = $\frac{0.2261\ (50)}{10\ ppm}$ = 113%

% Rec K10463-1PS = $\frac{.2126\ (50)}{10\ ppm}$ = 106%

KW 11/4/11

16:25 PM

LF 11/3/11

C16, K10169, K10227, K10763, K10467, K10511, K10212, K10524

DU520 S/N: 0112U2001732 1.03
03-NOV-11 16:25:22 SCA
Wavelength: 540.0 nm
Formula: A=a+bC a: 0.0104 b: 0.6679 r2=0.997 Var=0.0003

mg/L	Net A	pH adjusted
0.0000	0.001	7.03
0.0500	0.039	7.61
0.1000	0.074	7.48
0.2000	0.147	7.64
0.5000	0.373	7.89
1.0000	0.664	7.83

11/4/11

COLUMBIA ANALYTICAL SERVICES, INC.

ervice Request: _____ Method: D 1498-76

nalysis For: Oxidation-Reduction Potential

Sample #	Meter Reading (mV)	mV Reported	
Redox STD	472.0	472	% REC=
Quinhydrone 4 ref.	272.4	273	% REC=
K10169-2	275.1	275	
↓ -2d	266.3	266	
K10263-1	195.4	195	
↓ -1d	193.6	194	
redox std	473.1	473	
Khydrone 4ref	271.8	272	

Sample #	Meter Reading (mV)	mV Reported

Redox Standard: **ID #:** REE1-90-1C **True Value:** 480 mv **% REC=** 98 %, 98 %

Quinhydrone 4 ref.: **ID #:** Cert 6/2-1W A **True Value:** 270 mv **% REC=** 101 %, 101 %

Comments: Probe ID#: REE-79-E, EpH-02

K 10169-2/2d, $\bar{x}$ = 271 % RPD = 3%

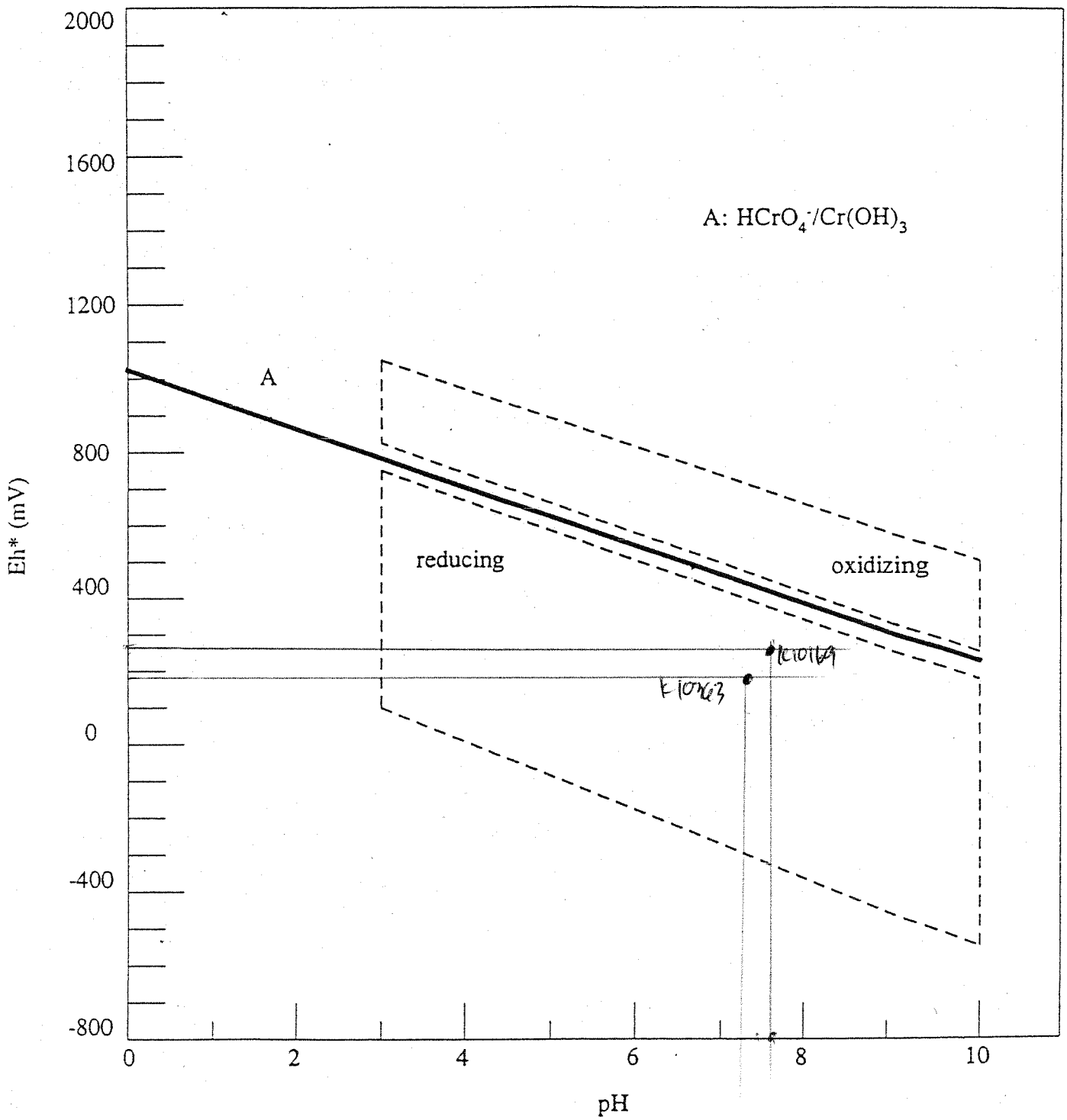
K 10263-1/1d, $\bar{x}$ = ~~195~~ 194 % RPD = 2 1%

IF 11/4/11

Analyst: IF	Date: 11/4/11
Reviewed By: [illegible]	Date: 11/4/11

FIGURE 2
Eh/pH PHASE DIAGRAM

The dashed lines define Eh-pH boundaries commonly encountered in soils and sediments.



* Note the Eh values plotted on this diagram are corrected for the reference electrode voltage: 244 mV units must be added to the measured value when a separate calomel electrode is used, or 199 mV units must be added if a combination platinum electrode is used.

Service Request #: Method: 9045C

Analysis: pH Corrosivity Matrix: Soil/Solid

Calibration						
Buffer	1.00	4.00	7.00	10.00	12.45	Value of Buffers at 25 °C
Reading		4.00	7.00	10.00		
Temp °C		25C	25C	25C		

Sample Number	Sample Wt. (g)	Vol of Ext Sol (mLs)	pH Reading	% Solids	Temp °C
Buffer Check	Buffer Value:		4.01		25C
LCS	--	--	7.55		
lc 10169-3	10.0439	20	7.60		
↓ -3d	10.0931		7.73		
lc 10363-1	10.0148		7.43		
↓ -1d	10.0681		7.24		
Buffer ✓			4.04		
Buffer Check	Buffer Value:				
Buffer Check	Buffer Value:				

LCS: APG 4063 Lot #: ID #: cond/1-55-C T. V. = 7.54 % REC. = 100%

pH 4.00 buffer Cond/1-75- R pH 7.00 buffer Cond/1-77- ✓ pH 10.00 buffer Cond/1-79-____

ph 1.00 buffer Cond/1-73-____ pH 12.45 buffer Cond/1-81-____ Extraction Solution:

Comments: Probe ID#: ree-79-I, IEpH-02

lc 10169-3 } X = 7.68 % RPD = 1%
I -3d }

lc 10363-1/1d X = 7.28 % RPD = 1%

Revision: 1a : 2009

Analyst: IF	Date: 11/4/11
Reviewed By: [illegible]	Date: 11/4/11

SOILPH

Columbia Analytical Services

Preparation Information Benchsheet

Prep Run:	145770	**Prep Workflow**:	Gen Dig Cr6	**Status**:	Prepped	**Prep Date**:	10/31/2011 12:00
Team:	GenChem	**Prep Method**:	EPA 3060A,Not Done Here	**Current Step**:	Digestion	**Due Date**:	10/30/2011
Analyst:	IF	**Rush/NPDES**:	N/A			**Hold Date**:	11/17/2011

lw/11/4/11

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments	pH adjusted
KQ1112117-04	Method Blank		10.001 g	100 mL				7.02
KQ1112117-06	Method Blank		10.001 g	100 mL				7.57
KQ1112117-03	Lab Control Sample		0.5048 g	100 mL	0.5048 g	21993	TV=145MG/KG	7.76
K1110169-001	CZBS0079S005 Soil	.03	10.1504 g	100 mL				7.18
K1110169-002	CZBS0064S005 Soil	.02	10.1182 g	100 mL				7.24
K1110169-003	CZBS0019S005 Soil	.02	10.0117 g	100 mL				7.00
K1110169-003: KQ1112117-09	Duplicate	.02	10.0328 g	100 mL				7.21
K1110169-003: KQ1112117-07	Matrix Spike	.02	10.0974 g	100 mL	2 mL	31516	TV= 21 mg/kg	7.22
K1110169-003: KQ1112117-08	Duplicate Matrix Spike	.02	10.0935 g	100 mL	4 mL	31516	TV= 41 mg/kg	7.03
K1110169-004	CZBS0040S035 Soil	.02	10.0239 g	100 mL				7.10
K1110212-002	Hexavalent Cr	.01	10.0093 g	100 mL				7.88
K1110227-001	CZBS0054S005 Soil	.03	10.1253 g	100 mL				7.21
K1110363-001	CZBS0069S005 Soil	.03	10.0266 g	100 mL				7.70
K1110363-001: KQ1112117-12	Duplicate	.03	10.0154 g	100 mL				7.51
K1110363-001: KQ1112117-10	Matrix Spike	.03	10.0719 g	100 mL	2 mL	31516	TV= 22 mg/kg	7.48
K1110363-001: KQ1112117-11	Duplicate Matrix Spike	.03	10.1510 g	100 mL	4 mL	31516	TV= 43 mg/kg	7.41
K1110363-002	CZBS0089S005 Soil	.03	10.0242 g	100 mL				7.10
K1110467-001	CZBS0076S005	.03	10.0065 g	100 mL				7.35
K1110511-001	Grinder Drain Screen	.01	10.1485 g	100 mL				7.68
K1110524-001	CZBS0045S035 Soil	.03	10.0732 g	100 mL				7.83
K1110524-002	CZBS0029S005 Soil	.03	10.133 g	100 mL				7.84
KQ1112117-01	Initial Calibration Blank		100 mL	100 mL				7.10
KQ1112117-02	Initial Calibraton Verification		100 mL	100 mL				7.96

23 Total Samples consisting of 12 Client Samples, 6 Client QC Samples, 5 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires
Chromium (VI) (Hexavalent) 100 ppm Cr+6	Spike	31516	12/22/2011

Name	Type	ID	Expires
Chromuim(VI) LCS Soil	Spike	21993	11/30/2012

Preparation Materials

lee 11/14/11

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	31-OCT-11 12:00	31-OCT-11 14:00	IF		N	

Comments

Review

Reviewed by: _____ Date: 11/4/11

COLUMBIA ANALYTICAL SERVICES, INC.

STARLIMS RUN#: 268231 Method: 3060A/7196A

Analysis: CrVI-color (soils)

Digestion began:	1200	1300	LCS Reference Lot #'s : Gen-CrVI/2 - 9-E TV= 145PPM
Digestion ended:	1900	1400	Curve ID: Gen-CrVI/2- 15-C CCV ID: GEN-Cr6/2-24-X TV= 0.5ppm
Initial temp:	91	92	ICV ID: Gen-CrVI/2 -32-W
15 min temp:	92	92	Digestion solution: GEN-Cr6/2-42-Q
30 min temp:	92	91	Phosphate Buffer: GEN-Cr6/2-57-E
45 min temp:	91	92	MgCl2: LOT # K137052
Final temp:	92	93	HNO3: LOT # K230222
Spiking solution:	GEN-Cr6/2-5-L		

pH of digestion solution:	13.2	Diphenyl Carbazide:	GEN-Cr6/2-66 K
Matrix Blank Sand Lot #:	010710	H2SO4:	57164
Waterbath ID:	K-SHAKERBATH-01	Thermometer ID:	111505110
pH meter ID:	K-pH-02	Balance ID:	K-BALANCE-31

Prepared By:	IF	Date Prepared:	10/31/2011
Analyzed By:	IF	Date Analyzed:	11/3/2011
Reviewed By:		Date Reviewed:	11/4/11

Original

Work Request # (K1022T)

Tier: 1D

Date Analyzed: 10/21/11

Analyst: Hougney

Analysis: NO_2-N - 353.2M

266322

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	(yes)/no/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no/NA
	a. Is the calibration curve correlation coefficient ≥ 0.995?	(yes)/no/NA
	b. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes)/no/NA
	c. Are ICVs, CCVs, and CCBs all within acceptance limits?	(yes)/no/NA
	d. Are results for methods blanks all ND?	(yes)/no/NA
	e. Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(yes)/no/NA
	f. Are all exceptions explained?	yes/no/(NA)
6.	Are all service requests that apply attached?	(yes)/no/NA
7.	Are all samples labelled correctly?	(yes)/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	(yes)/no/NA
9.	Are detection limits and units reported correctly?	(yes)/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	(yes)/no/NA
11.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	(yes)/no/NA

COMMENTS:

Final Approved by: _____ Date: 10/31/11

DQREPORT

Analytical Results Summary

nstrument Name: K-FIA-01 **Analyst:** THANGANU **Analysis Lot:** 266322 **Method/Testcode:** 353.2M/NO2

b Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	As Received*	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
110227-001	Nitrite as Nitrogen	N/A		Soil	0.01 mg/L	0.06	0.06 mg/Kg J	1	0.03	0.27			10/21/11 14:24	N	V
)1111517-01	Nitrite as Nitrogen	MB		Soil	0.03 mg/L	0.13	0.13 mg/Kg J	1	0.02	0.25			10/21/11 14:24	N	V
)1111517-02	Nitrite as Nitrogen	DUP	K1110227-001	Soil	0.01 mg/L	0.06	0.07 mg/Kg J	1	0.03	0.27		3	10/21/11 14:24	N	V
)1111529-01	Nitrite as Nitrogen	LCS		Soil	3.91 mg/L	3.91	3.91 mg/Kg	1	0.02	0.25	98		10/21/11 14:24	N	V
)1111529-02	Nitrite as Nitrogen	LCS		Soil	0.49 mg/L	0.49	0.489 mg/Kg	1	0.02	0.25	98		10/21/11 14:24	N	V
)1111529-03	Nitrite as Nitrogen	LCS		Soil	0.05 mg/L	0.05	0.0527 mg/Kg J	1	0.02	0.25	105		10/21/11 14:24	N	V
)1111529-04	Nitrite as Nitrogen	CCB		Soil	0.01 mg/L	0.01	0.25 mg/Kg U	1	0.02	0.25			10/21/11 14:24	N	V
)1111529-05	Nitrite as Nitrogen	CCB		Soil	0.01 mg/L	0.01	0.25 mg/Kg U	1	0.02	0.25			10/21/11 14:24	N	V
)1111529-06	Nitrite as Nitrogen	CCV		Soil	1.95 mg/L	1.95	1.95 mg/L	1	98% J				10/21/11 14:24	N	V
)1111529-07	Nitrite as Nitrogen	CCV		Soil	1.95 mg/L	1.95	1.95 mg/L	1					10/21/11 14:24	N	V

LCS ID#: AN/11-41-B T.V. = 4.00 T.V. = 0.50 (LL) T.V. = 0.05 (LL)
Spike ID#: B+LNO3/2-3-N PS=2.00
Curve, CCV ID#: B+LNO3/2-42-P T.V. = 2.00
MB MS = 2.00

72

10/21/11

Not adjusted for changes in units
ndicates Final Result is not yet adjusted for Solids because it has not yet been determined.

N/O2

Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 144773 **Prep Workflow**: GenExt7Day **Status**: Prepped **Prep Date**: 10/21/2011 12:00
Team: GenChem **Prep Method**: CAS SOP **Current Step**: Extraction **Due Date**: 10/31/2011
Analyst: T.Hanganu **Rush/NPDES**: N/A **Hold Date**: 10/26/2011

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111517-01	Method Blank		10.02 g	50.00 mL			
K1110227-001	CZBS0054S005 Soil	.02	10.01 g	50.00 mL			
K1110227-001: KQ1111517-02	Duplicate	.02	10.05 g	50.00 mL			

3 Total Samples consisting of 1 Client Sample, 1 Client QC Sample, 1 Batch QC Sample associated with the current Prep Run.

Spiking Solutions

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Extraction	21-OCT-11 12:00	21-OCT-11 12:45	T.Hanganu		N	

Comments

Review

Reviewed by: _____ Date: 10/31/11

10/21/11

BRAN+LUEBBE

Post-run report

Name of Run	: 111021D	Name of Analysis	:Nitrite.ANL
Date of Report	: 10/21/2011	System No.	:1
Date of Run	: 10/21/2011	Type of System	:AA3
Operator	:	Start/Stop time	:14:24 - 15:01
Comment	:		

Channel	:	2
Method	:	Method 2
Unit	:	
Calibr. Fit	:	Linear
Corr. Coeff.	:	1.0000
Base	:	-26791
Gain	:	6
Sensitivity	:	1.3863
Sample Limit 1	:	
Sample Limit 2	:	

Pk	Cup		Sample Id	Value	
0	0	B	Baseline	0.0014	
1	1	P	Primer	4.9955	
2	1	D	Drift	5.0174	
3	1	C	5.00	5.0124	
4	2	C	2.00	1.9684	
5	3	C	0.50	0.4984	
6	4	C	0.05	0.0599	
7	5	C	0	0.0109	
8	1	H1	High	5.0107	
9	0	L1	Low	0.0234	
10	0	L1	Low	0.0061	
11	5	QC2	CCB1	0.0106	
12	2	QC1	CCV1	1.9548	
13	10	QC3	LCS1	3.9070	T.V. = 4.00 (0.4ml x 100ppm/10ml)
14	9	QC3	LCS1 LL (0.50)	0.4894	T.V. = 0.50 (0.25ml x 100ppm/50ml)
15	8	QC3	LCS2 LL(0.05)	0.0527	T.V. = 0.05 (0.05ml x 100ppm/100ml)
16	0	N	Null	0.0057N	
17	11	S	MB 10/21/11	0.0262	
18	12	S	k1110227-001	0.0118	< 0.05
19	13	S	k1110227-001d	0.0122	< 0.05
20	14	S	k1110227-001ps	1.9553	1.96 98%
21	15	S	k1110227-001psd	1.9712	1.97 99%
22	0	B	Baseline	0.0030	
23	5	QC2	CCB2	0.0091	
24	2	QC1	CCV2	1.9539	
25	1	D	Drift	5.0320	
26	0	B	Baseline	0.0047	

10/21/11

27 0 B FinalBase 0.0038

QC Limits

Channel	:	2
QC 1	Unused	
QC 2	Unused	
QC 3	Unused	
QC 4	Unused	
QC 5	Unused	
QC 6	Unused	
QC 7	Unused	
QC 8	Unused	
QC 9	Unused	
QC10	Unused	

CORRECTIONS

Channel	:	2
Baseline	:	No
Drift	:	No
Carry over	:	No
%:		0.0

* ... Sample offscale
+ ... Result higher than sample limit
- ... Result lower than sample limit
P ... Standard passed
F ... Standard failed
N ... Value not calculated or not used
R ... Resample after offscale
M ... Peak marker moved manually
D ... Diluted sample

** <END OF REPORT> **

10/21/11

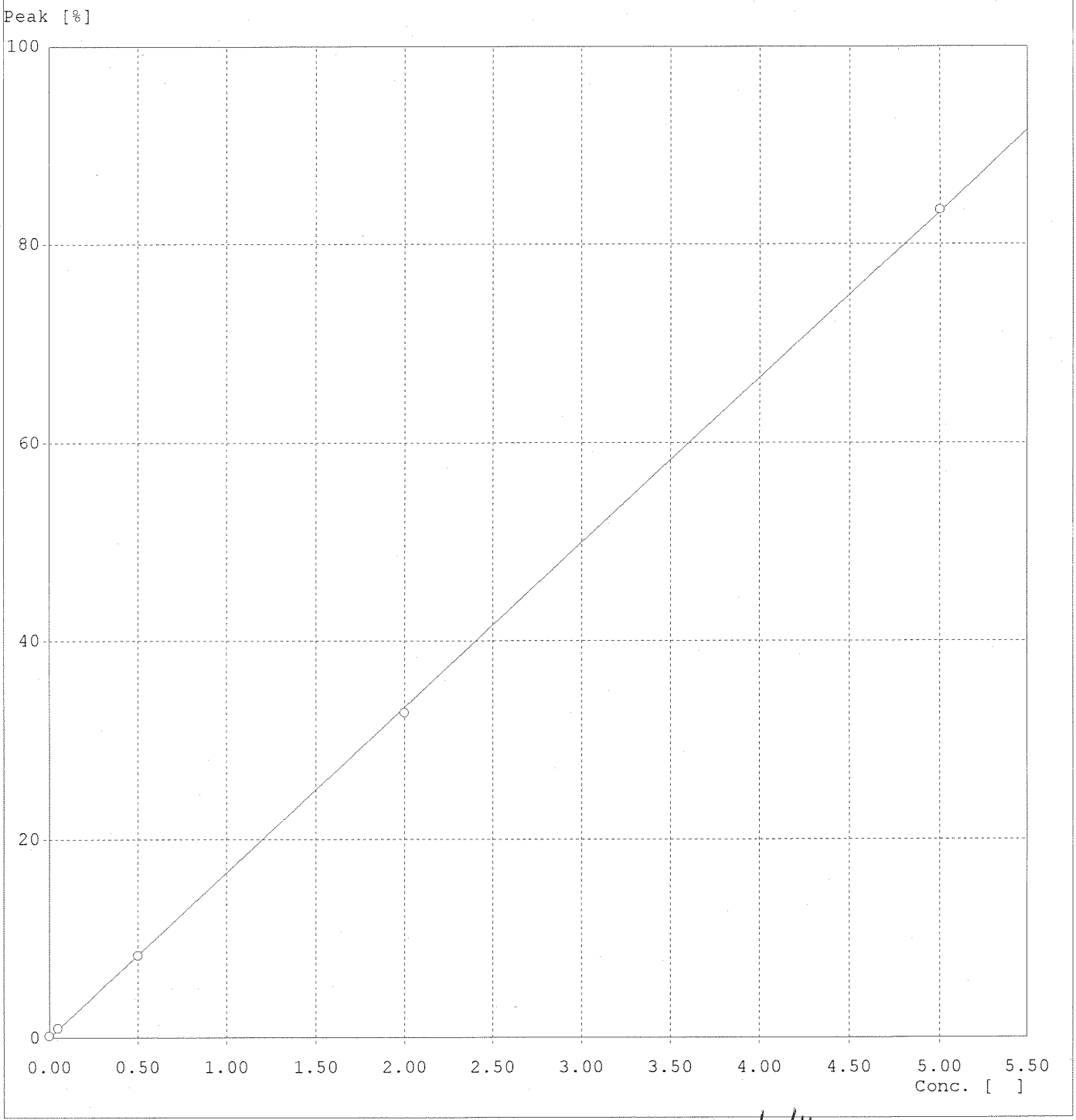
BRAN+LUEBBE

Calibration Curve

Name of run :111021D.run
Comment :

Name of analysis :Nitrite.ANL

Channel :2
Method :Method 2
Curve fit :linear a=-2.9789E-001 b=9.1627E-005
Corr. coeff. :1.0000



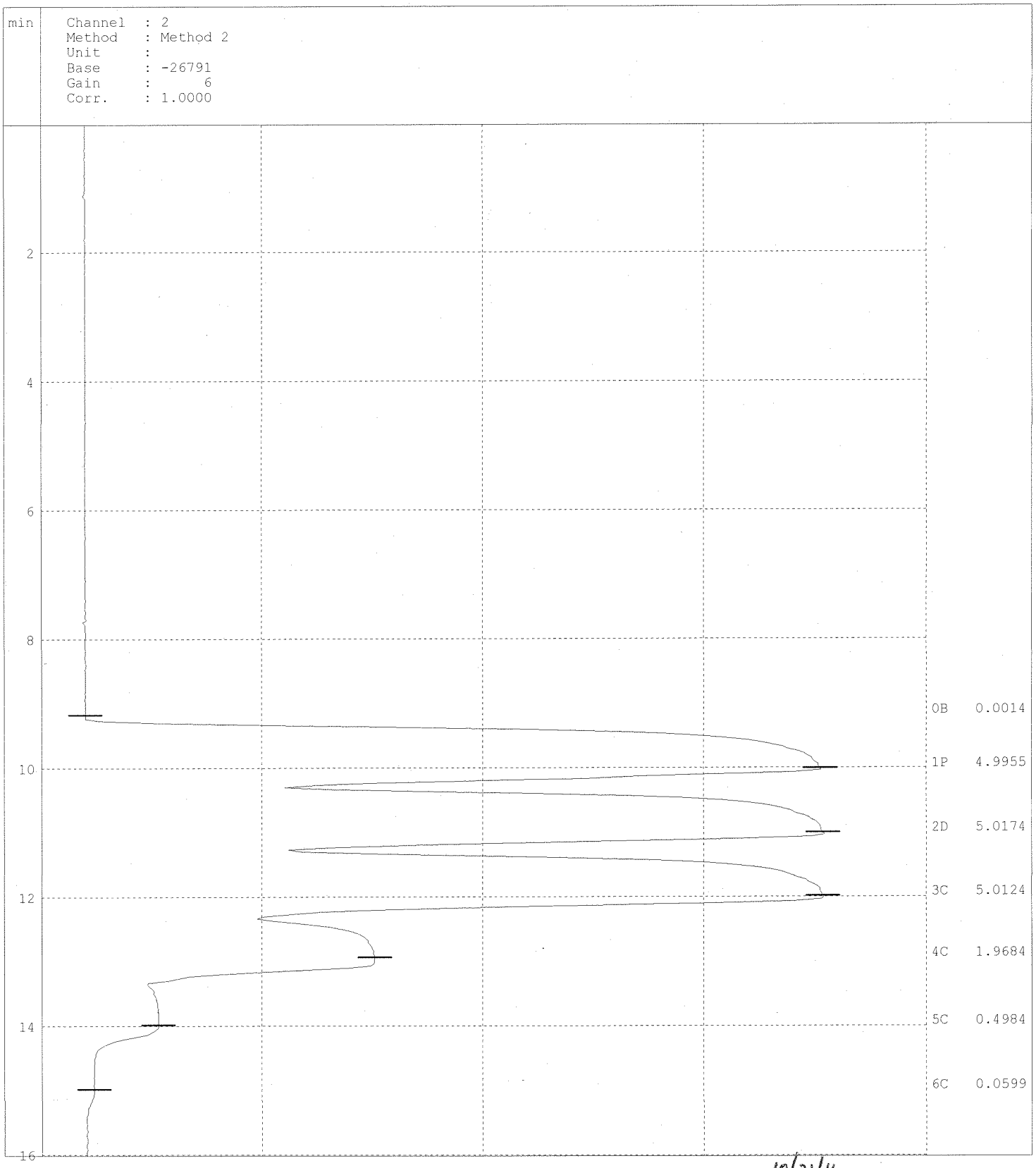
10/21/11

BRAN+LUEBBE

Post-run chart

Name of run :111021D.RUN
Comment :

Name of analysis :Nitrite.ANL

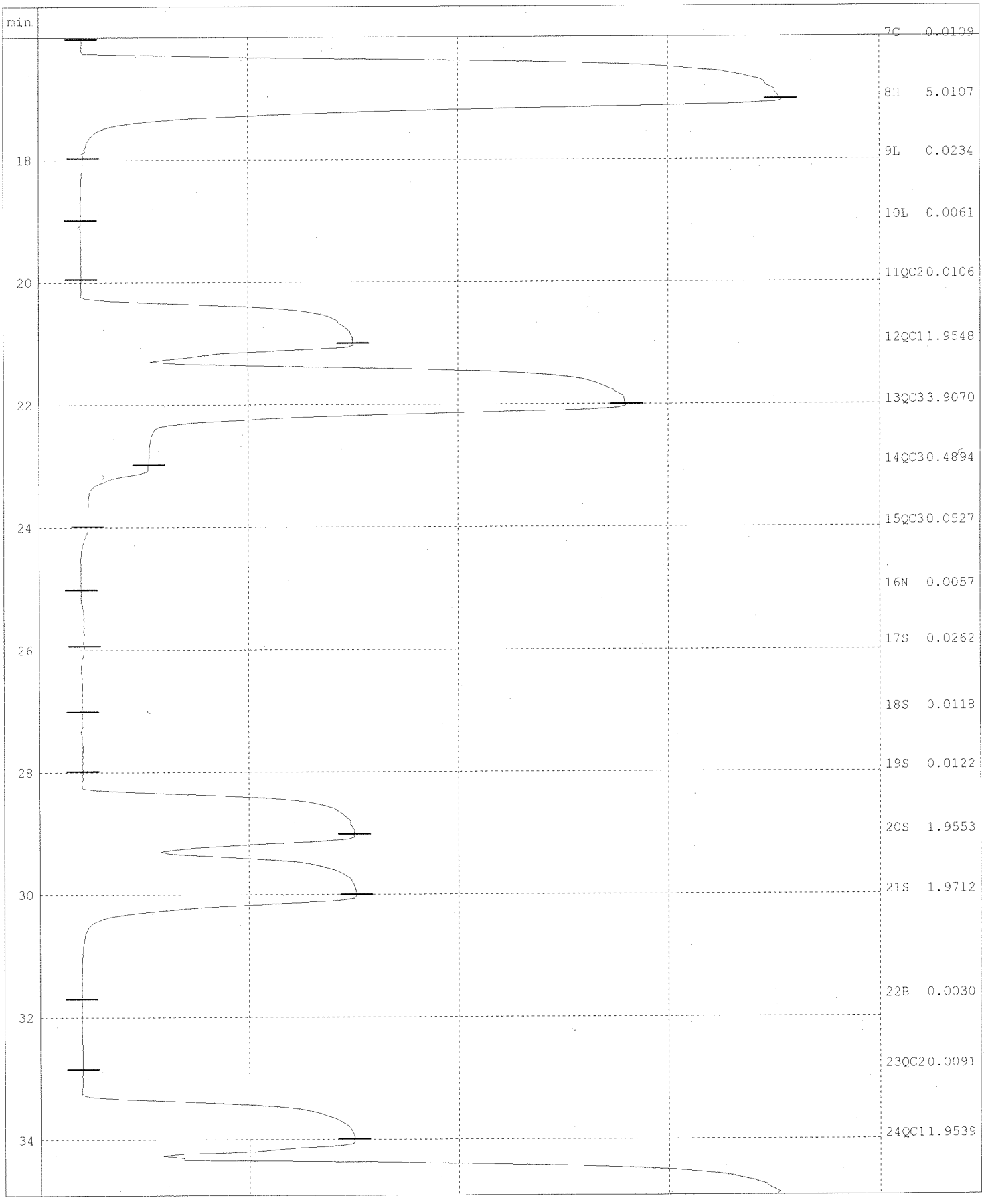


10/21/11

Name of run :111021D.RUN

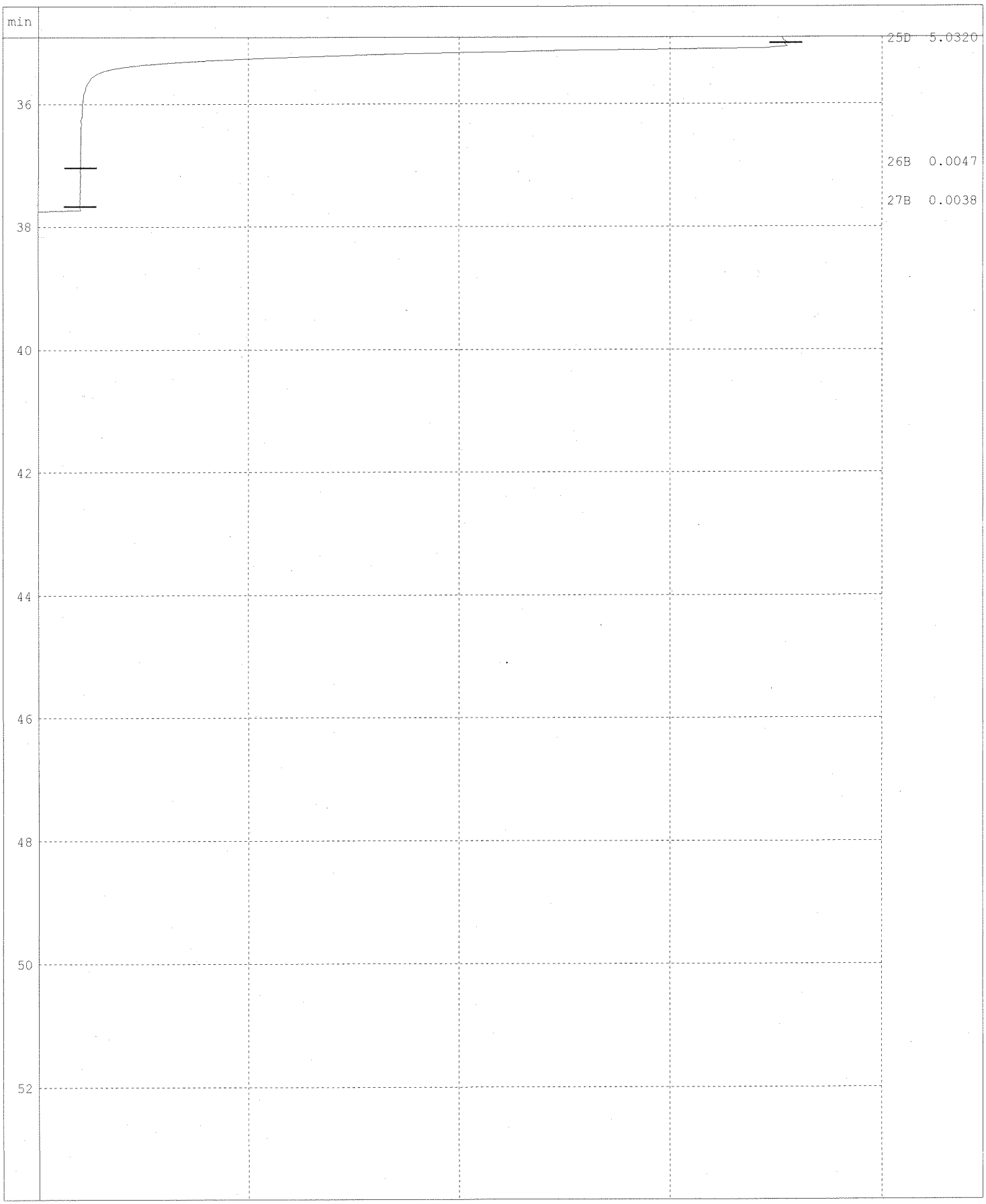
Name of analysis :Nitrite.ANL

Comment :



Name of run :111021D.RUN
Comment :

Name of analysis :Nitrite.ANL



Work Order #.: K1022 7 Method:

Analysis: NO_2, NO_2/NO_3

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L (in solution)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
10/21/11	MB	10.02	50				
"	LCS	10.00	"				
"	LCS, LL	10.01	"				
"	K10227-1	10.01	"				
"	" -1D	10.04	"				
"	" -1MS	10.08	"				

LCS = 10 mL

MS= LCS LL = 0.30mL

MSD= Spike = 0.50 mL

X= Seed Lot#: 071610 TH 10/21/11

RPD=

STD ID # =

Comments:

Prepared By:		Date Prepared: 10/21/11	Time: 12:00
Analyzed By:		Date Analyzed: 10/21/11	
Reviewed By:		Date Reviewed:	

Work Request # Original (K10227

Tier: IV

Date Analyzed: 10/21/11

Analyst: Hourany

Analysis: NO_2/NO_3-N- 353.2M 266338

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	(yes)/no/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no/NA
	a. Is the calibration curve correlation coefficient ≥ 0.995?	(yes)/no/NA
	b. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes)/no/NA
	c. Are ICVs, CCVs, and CCBs all within acceptance limits?	(yes)/no/NA
	d. Are results for methods blanks all ND?	(yes)/no/NA
	e. Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(yes)/no/NA
	f. Are all exceptions explained?	yes/no/(NA)
6.	Are all service requests that apply attached?	(yes)/no/NA
7.	Are all samples labelled correctly?	(yes)/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	(yes)/no/NA
9.	Are detection limits and units reported correctly?	(yes)/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	(yes)/no/NA
11.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	(yes)/no/NA

COMMENTS:

Final Approved by: _____ Date: 10/31/11

DQREPORT

Analytical Results Summary

Instrument Name: K-FIA-01 **Analyst:** THANGANU **Analysis Lot:** 266338 **Method/Testcode:** 353.2M/NO2 NO3

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	As Received*	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K1110227-001	Nitrate+Nitrite as Nitrogen	N/A		Soil	1.99 mg/L	9.95	10.9 mg/Kg	1	0.08	0.55			10/21/11 13:35:00	N	V
K1111518-01	Nitrate+Nitrite as Nitrogen	LCS		Soil	3.61 mg/L	18.07	18.1 mg/Kg	1	0.07	0.50	102		10/21/11 13:35:00	N	V
K1111518-02	Nitrate+Nitrite as Nitrogen	MB		Soil	0.03 mg/L	0.16	0.16 mg/Kg J	1	0.07	0.50			10/21/11 13:35:00	N	V
K1111518-03	Nitrate+Nitrite as Nitrogen	LCS		Soil	0.11 mg/L	0.55	0.547 mg/Kg	1	0.07	0.50	103		10/21/11 13:35:00	N	V
K1111518-04	Nitrate+Nitrite as Nitrogen	DUP	K1110227-001	Soil	1.96 mg/L	9.76	10.7 mg/Kg	1	0.08	0.55		2	10/21/11 13:35:00	N	V
K1111518-05	Nitrate+Nitrite as Nitrogen	MS	K1110227-001	Soil	2.14 mg/L	530.18	581 mg/Kg	50	4	27	105		10/21/11 13:35:00	N	V
K1111537-01	Nitrate+Nitrite as Nitrogen	CCB		Soil	0.02 mg/L	0.02	0.50 mg/Kg U	1	0.07	0.50			10/21/11 13:35:00	N	V
K1111537-02	Nitrate+Nitrite as Nitrogen	CCB		Soil	0.02 mg/L	0.02	0.50 mg/Kg U	1	0.07	0.50			10/21/11 13:35:00	N	V
K1111537-03	Nitrate+Nitrite as Nitrogen	CCV		Soil	1.95 mg/L	1.95	1.95 mg/L	1	98%				10/21/11 13:35:00	N	V
K1111537-04	Nitrate+Nitrite as Nitrogen	CCV		Soil	1.95 mg/L	1.95	1.95 mg/L	1					10/21/11 13:35:00	N	V

LCS ID#: $PO_3/_3$-79-L T.V. = 17.7 T.V. = 0.53 (LL)

Spike ID#: $B+LNO_3/_2$-3-M T.V. = 0.5mL x 10000ppm/10.08/0.913 = 543

Curve, CCV ID#: $B+LNO_3/_2$-22-O T.V. = 2.00

ICV ID#: $B+LNO_3/_2$-42-P T.V. = 2.00

MB MS = 2.00

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'ot adjusted for changes in units

ıdicates Final Result is not yet adjusted for Solids because it has not yet been determined.

NO_2/NO_3

Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 144774 **Prep Workflow**: GenExt7Day **Status**: Prepped **Prep Date**: 10/21/2011 12:00
Team: GenChem **Prep Method**: CAS SOP **Current Step**: Extraction **Due Date**: 11/07/2011
Analyst: T.Hanganu **Rush/NPDES**: N/A **Hold Date**: 11/16/2011

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111518-02	Method Blank		10.02 g	50.00 mL			
KQ1111518-01	Lab Control Sample		10.00 g	50.00 mL	10 mL	34678	
KQ1111518-03	Lab Control Sample		10.01 g	50.00 mL	0.3 mL	34678	
K1110227-001	CZBS0054S005 Soil	.02	10.01 g	50.00 mL			
K1110227-001: KQ1111518-04	Duplicate	.02	10.05 g	50.00 mL			
K1110227-001: KQ1111518-05	Matrix Spike	.02	10.08 g	50.00 mL	0.5 mL	35931	

6 Total Samples consisting of 1 Client Sample, 2 Client QC Samples, 3 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
Orthophosphate LCS water	Spike	34678	3/16/2012	Sodium Nitrate 10,000 ppm NaNO3	Spike	35931	4/14/2012

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Extraction	21-OCT-11 12:00	21-OCT-11 12:45	T.Hanganu		N	

Comments

Review

Reviewed by: _____ Date: 10/31/11

10/21/11

BRAN+LUEBBE

Post-run report

Name of Run	: 111021C	Name of Analysis	:NO2+NO3
Date of Report	: 10/21/2011	System No.	:1
Date of Run	: 10/21/2011	Type of System	:AA3
Operator	:	Start/Stop time	:13:35 - 14:15
Comment	:		

Channel	:	2
Method	:	Method 2
Unit	:	mg/L
Calibr. Fit	:	Linear
Corr. Coeff.	:	0.9999
Base	:	-26942
Gain	:	6
Sensitivity	:	1.3090
Sample Limit 1	:	
Sample Limit 2	:	

Pk	Cup		Sample Id	Value		
0	0	B	Baseline	0.0034		
1	1	P	primer	4.9844		
2	1	D	Drift	5.0005		
3	1	C	5.00	5.0201		
4	2	C	2.00	1.9477		
5	3	C	0.50	0.4999		
6	4	C	0.05	0.0659		
7	5	C	0	0.0165		
8	1	H1	High	5.0221		
9	0	L1	Low	0.0050		
10	0	L1	Low	0.0052		
11	9	QC3	ICV	2.0234	2.02	101%
12	5	QC2	ICB	0.0157	<0.05	
13	5	QC2	CCB1	0.0182		
14	2	QC1	CCV1	1.9528		
15	10	QC4	LCS1	3.6132		
16	11	S	MB MS	1.9694	1.97	99%
17	12	S	LCS LL	0.1096		
18	5	QC2	MB1	0.0193		
19	13	S	MB 10/21/11	0.0311		
20	14	S	k1110227-001	1.9918		
21	15	S	k1110227-001d	1.9624		
22	16	S	k1110227-001ms*50	2.1377		
23	0	B	Baseline	0.0034		
24	5	QC2	CCB2	0.0215		
25	2	QC1	CCV2	1.9544		
26	1	D	Drift	5.0005		

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27	0	B	Baseline	0.0034
28	0	B	FinalBase	0.0034

QC Limits

Channel :	2
QC 1	Unused
QC 2	Unused
QC 3	Unused
QC 4	Unused
QC 5	Unused
QC 6	Unused
QC 7	Unused
QC 8	Unused
QC 9	Unused
QC10	Unused

CORRECTIONS

Channel :	2
Baseline :	Yes
Drift :	Yes
Carry over :	Yes
%:	0.7

---

* ... Sample offscale
\+ ... Result higher than sample limit
\- ... Result lower than sample limit
P ... Standard passed
F ... Standard failed
N ... Value not calculated or not used
R ... Resample after offscale
M ... Peak marker moved manually
D ... Diluted sample

** <END OF REPORT> **

10/21/11

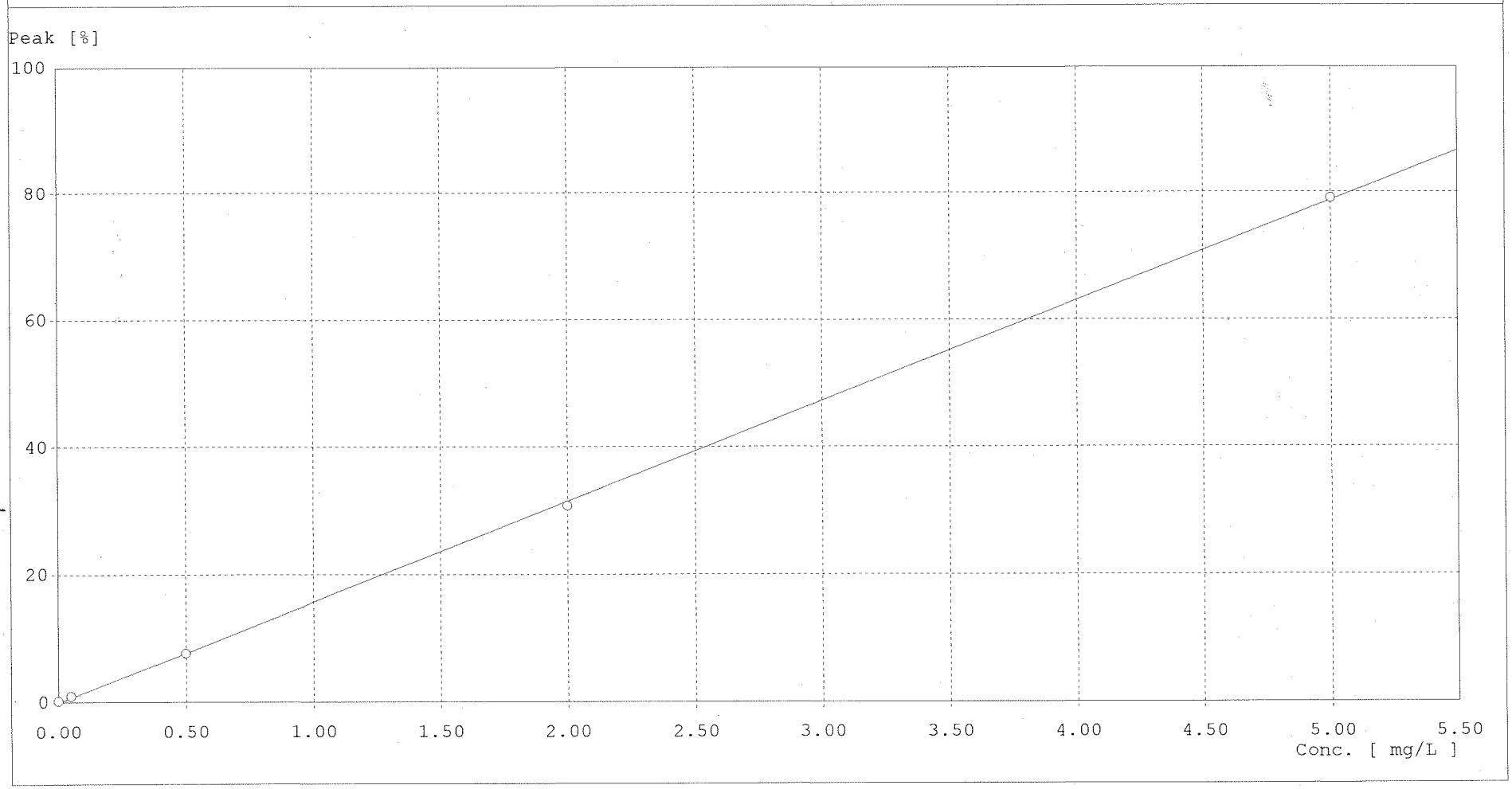
BRAN+LUEBBE

Calibration Curve

Name of run :111021C.run
Comment :

Name of analysis :NO2+NO3

Channel :2
Method :Method 2
Curve fit :linear a=-3.2307E-001 b=9.6762E-005
Corr. coeff. :0.9999



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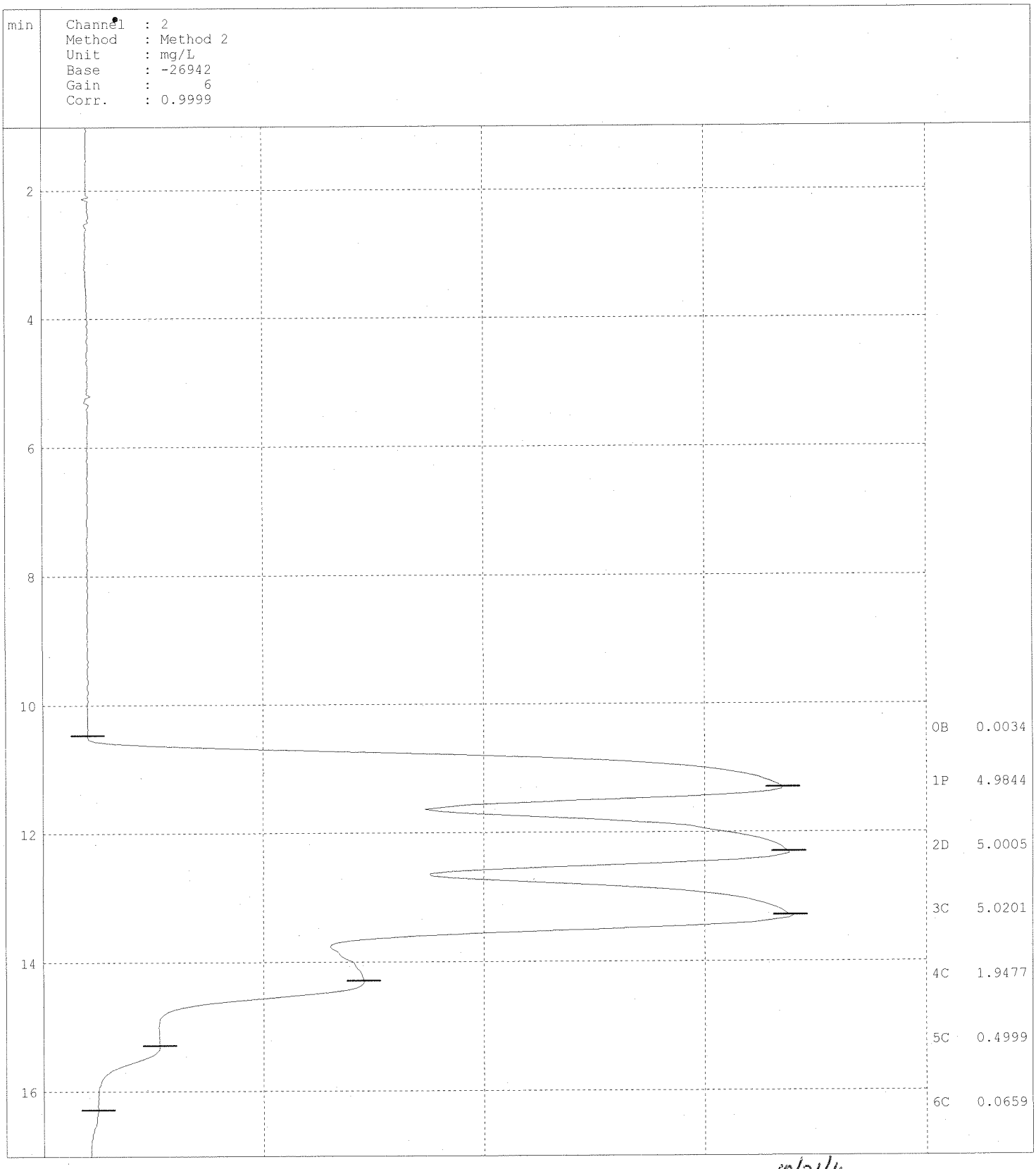
10/21/11

BRAN+LUEBBE

Post-run chart

Name of run :111021C.RUN
Comment :

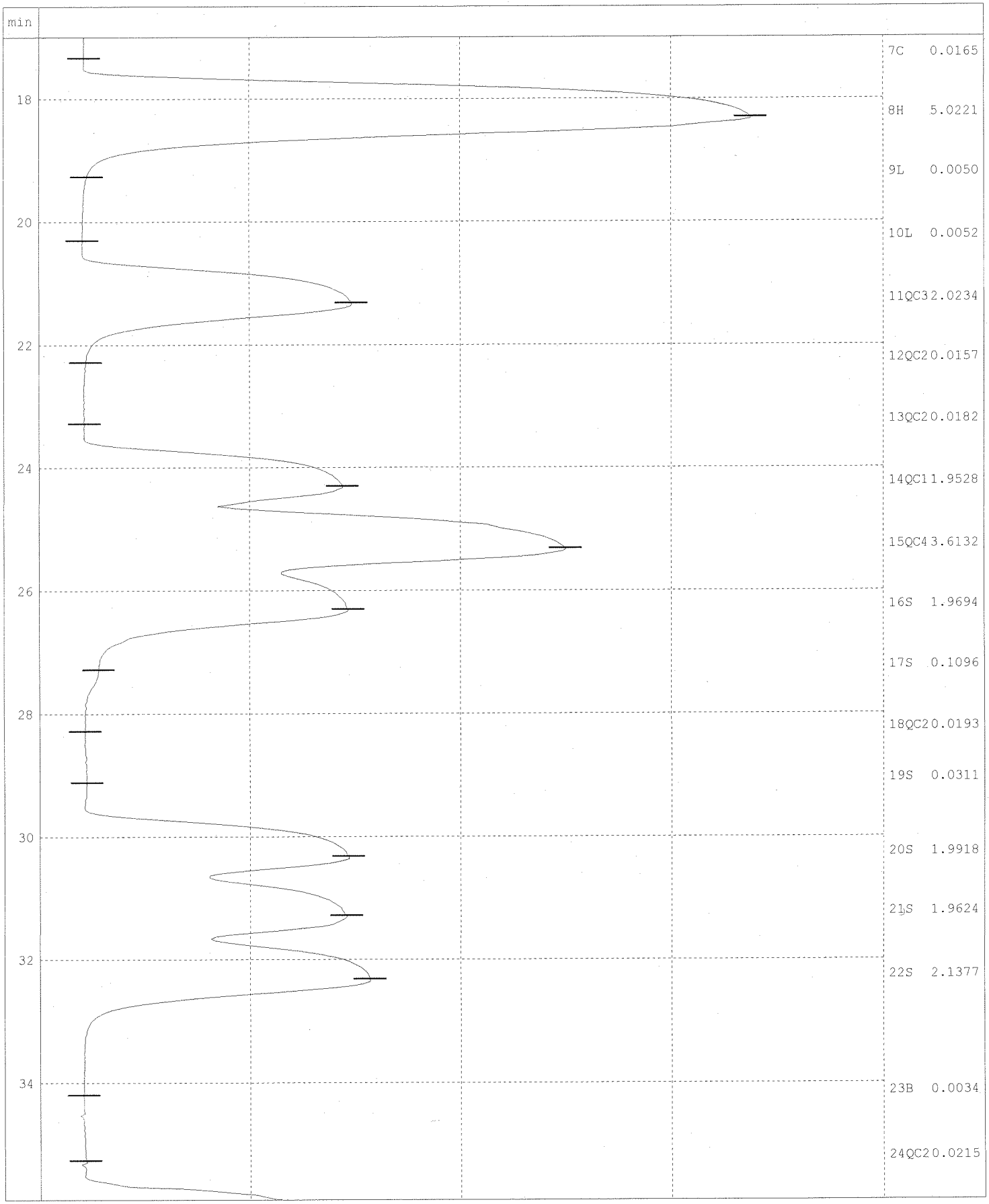
Name of analysis :NO2+NO3



10/21/11

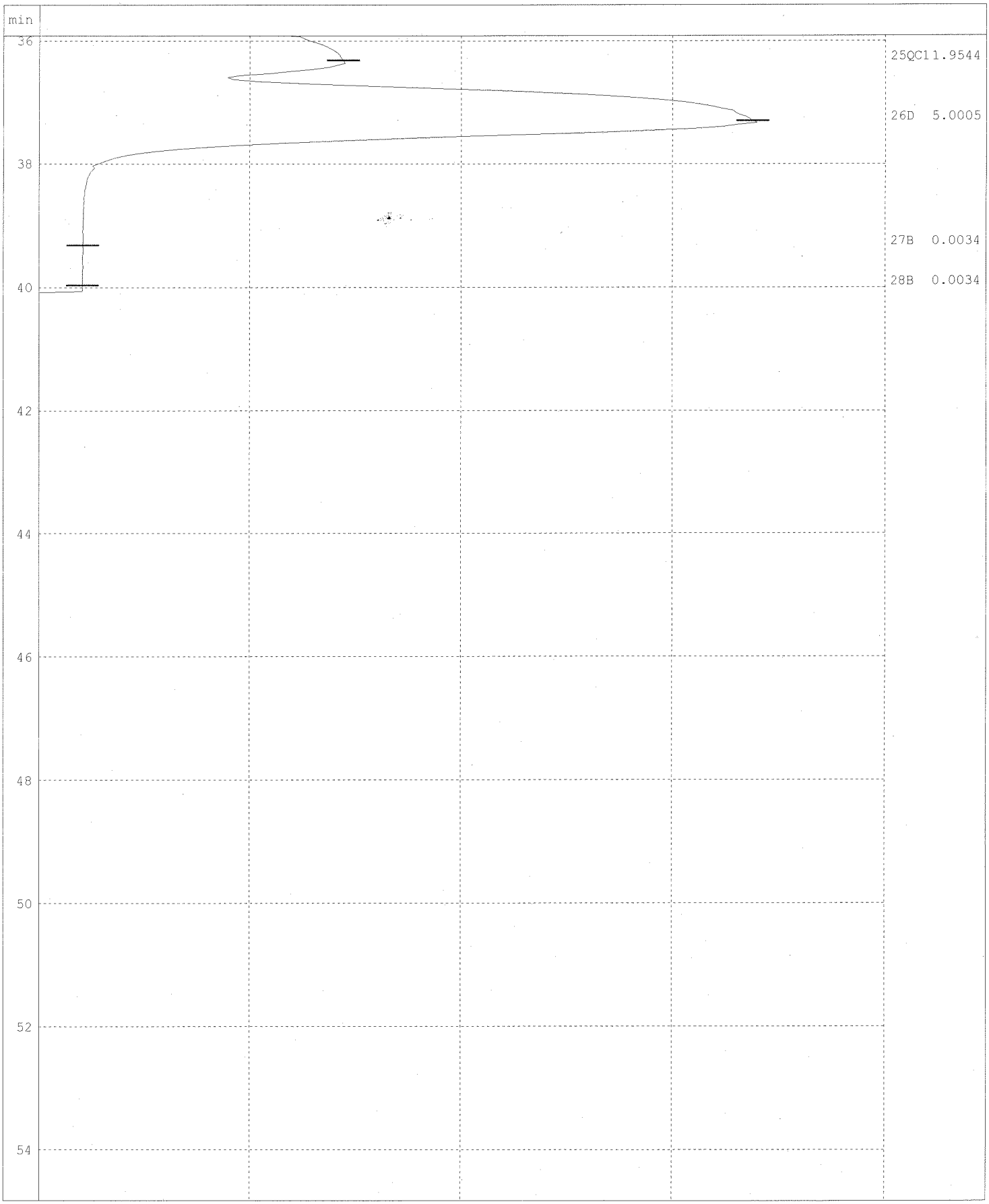
Name of run :111021C.RUN
Comment :

Name of analysis :NO2+NO3



Name of run :111021C.RUN
Comment :

Name of analysis :NO2+NO3



Work Order #.: K10227 Method:

Analysis: NO_2, NO_2/NO_3

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L (in solution)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
10/21/11	MB	10.02	50				
	LCS	10.00					
	LCS, LL	10.01					
	K10227-1	10.01					
	-1d	10.09					
	-1ms	10.08					

LCS = 10 mL

MS=

LCS LL = 0.30mL

MSD=

Spike = 0.50 mL @ TH 10/21/11

X= Found

RPD= Lot#: 071610

STD ID # =

Comments:

Prepared By:		Date Prepared: 10/21/11	Time: 12:00
Analyzed By:		Date Analyzed: 10/21/11	
Reviewed By:		Date Reviewed:	

Work Request # Original (10081) 10125, 10148, 10169, 10174, 10212, 10251, 10331, 10363, 10392, 10227

Tier: IV IV IV IV IV IX I IV IV IV IV

Date Analyzed: 10/25/11

Analyst: RK

Analysis: CN- Total

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?		yes/no/NA
2.	Holding times met for all analyses and for all samples?		yes/no/NA
3.	Are calculations correct?		yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)		yes/no/NA
5.	All quality control criteria met?		yes/no/NA
	a.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
	b.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
	c.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
	d.	Are results for methods blanks all ND?	yes/no/NA
	e.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	1 yes/no/NA
	f.	Are all exceptions explained?	yes/no/NA
6.	Are all service requests that apply attached?		yes/no/NA
7.	Are all samples labelled correctly?		yes/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)		yes/no/NA
9.	Are detection limits and units reported correctly?		yes/no/NA
10.	Are proper Analysis/Extraction stickers included on report?		yes/no/NA
11.	Is the unused space on the benchsheet crossed out?		yes/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)		yes/no/NA

COMMENTS:

1 Low MS/MSD recovery, high sample/RPD and MS/MSD RPD a result of matrix interference. WRS requested LCS spike at the MRL. Low recovery ~~obtained~~ achieved. It is very difficult to recover such a low spike with the LCS.

Final Approved by: RK Date: 10/31/11

DQREPORT

RK
10-31-11

R:\WET\FORMS\LAB\DATAQUAL.DOC

Analytical Results Summary

strument Name: K-FIA-03 **Analyst:** RKATZENMYER **Analysis Lot:** 267360 **Method/Testcode:** 9012A/CN Tot

Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
10081-010	Cyanide, Total	N/A		Sediment	19.61 µg/L	3.321 g	0.39 mg/Kg J	1	0.12	0.40			10/29/11 15:45:00	N	V
10081-011	Cyanide, Total	N/A		Sediment	4.97 µg/L	2.792 g	0.43 mg/Kg U	1	0.13	0.43			10/29/11 15:45:00	N	V
10081-012	Cyanide, Total	N/A		Sediment	2.12 µg/L	2.635 g	0.36 mg/Kg U	1	0.11	0.36			10/29/11 15:45:00	N	V
10081-013	Cyanide, Total	N/A		Sediment	12.65 µg/L	4.062 g	0.14 mg/Kg J	1	0.07	0.23			10/29/11 15:45:00	N	V
10081-014	Cyanide, Total	N/A		Sediment	13.62 µg/L	3.147 g	0.14 mg/Kg J	1	0.07	0.20			10/29/11 15:45:00	N	V
10125-001	Cyanide, Total	N/A		Sediment	3.75 µg/L	2.966 g	0.35 mg/Kg U	1	0.11	0.35			10/29/11 15:45:00	N	V
10125-002	Cyanide, Total	N/A		Sediment	6.59 µg/L	3.872 g	0.09 mg/Kg J	1	0.08	0.26			10/29/11 15:45:00	N	V
10125-003	Cyanide, Total	N/A		Sediment	11.20 µg/L	4.502 g	0.11 mg/Kg J	1	0.07	0.20			10/29/11 15:45:00	N	V
10125-004	Cyanide, Total	N/A		Sediment	12.45 µg/L	4.406 g	0.16 mg/Kg J	1	0.08	0.26			10/29/11 15:45:00	N	V
10125-005	Cyanide, Total	N/A		Sediment	9.76 µg/L	3.173 g	0.14 mg/Kg J	1	0.09	0.29			10/29/11 15:45:00	N	V
10125-006	Cyanide, Total	N/A		Sediment	10.41 µg/L	4.257 g	0.12 mg/Kg J	1	0.07	0.22			10/29/11 15:45:00	N	V
10125-007	Cyanide, Total	N/A		Sediment	9.52 µg/L	3.796 g	0.10 mg/Kg J	1	0.07	0.22			10/29/11 15:45:00	Y	V
10125-008	Cyanide, Total	N/A		Sediment	16.72 µg/L	2.588 g	0.33 mg/Kg J	1	0.12	0.40			10/29/11 15:45:00	N	V
10125-009	Cyanide, Total	N/A		Sediment	28.56 µg/L	3.120 g	0.48 mg/Kg	1	0.11	0.34			10/29/11 15:45:00	N	V
10125-010	Cyanide, Total	N/A		Sediment	17.11 µg/L	3.962 g	0.20 mg/Kg J	1	0.08	0.24			10/29/11 15:45:00	N	V
10125-011	Cyanide, Total	N/A		Sediment	7.72 µg/L	4.189 g	0.07 mg/Kg J	1	0.06	0.17			10/29/11 15:45:00	N	V
10148-001	Cyanide, Total	N/A		Sediment	22.45 µg/L	3.176 g	0.37 mg/Kg	1	0.10	0.33			10/29/11 15:45:00	N	V
10148-002	Cyanide, Total	N/A		Sediment	37.91 µg/L	3.839 g	0.50 mg/Kg	1	0.08	0.26			10/29/11 15:45:00	N	V
10148-003	Cyanide, Total	N/A		Sediment	60.20 µg/L	3.317 g	0.81 mg/Kg	1	0.09	0.27			10/29/11 15:45:00	N	V
10148-004	Cyanide, Total	N/A		Sediment	0.00 µg/L	3.107 g	0.23 mg/Kg U	1	0.07	0.23			10/29/11 15:45:00	N	V
10169-001	Cyanide, Total	N/A		Soil	26.14 µg/L	3.870 g	0.18 mg/Kg	1	0.06	0.14			10/29/11 15:45:00	N	V
10169-002	Cyanide, Total	N/A		Soil	18.66 µg/L	4.814 g	0.11 mg/Kg J	1	0.06	0.11			10/29/11 15:45:00	N	V
10169-003	Cyanide, Total	N/A		Soil	42.29 µg/L	4.080 g	0.27 mg/Kg	1	0.06	0.13			10/29/11 15:45:00	N	V
10169-004	Cyanide, Total	N/A		Soil	8.03 µg/L	4.318 g	0.13 mg/Kg U	1	0.06	0.13			10/29/11 15:45:00	N	V
10174-001	Cyanide, Total	N/A		Sediment	17.94 µg/L	2.505 g	0.55 mg/Kg J	1	0.19	0.62			10/29/11 15:45:00	N	V
10174-002	Cyanide, Total	N/A		Sediment	22.78 µg/L	2.692 g	0.39 mg/Kg	1	0.11	0.35			10/29/11 15:45:00	N	V
10174-003	Cyanide, Total	N/A		Sediment	0.00 µg/L	5.483 g	0.10 mg/Kg U	1	0.06	0.10			10/29/11 15:45:00	N	V
10174-004	Cyanide, Total	N/A		Sediment	0.00 µg/L	6.715 g	0.084 mg/Kg U	1	0.060	0.084			10/29/11 15:45:00	N	V
10174-005	Cyanide, Total	N/A		Sediment	1.22 µg/L	5.999 g	0.095 mg/Kg U	1	0.060	0.095			10/29/11 15:45:00	N	V
10174-006	Cyanide, Total	N/A		Sediment	0.00 µg/L	6.023 g	0.096 mg/Kg U	1	0.060	0.096			10/29/11 15:45:00	N	V
10174-009	Cyanide, Total	N/A		Sediment	3.04 µg/L	6.412 g	0.094 mg/Kg U	1	0.060	0.094			10/29/11 15:45:00	N	V
10174-010	Cyanide, Total	N/A		Sediment	6.40 µg/L	5.638 g	0.11 mg/Kg U	1	0.06	0.11			10/29/11 15:45:00	N	V
10174-011	Cyanide, Total	N/A		Sediment	11.27 µg/L	5.533 g	0.06 mg/Kg J	1	0.06	0.11			10/29/11 15:45:00	N	V
10174-012	Cyanide, Total	N/A		Sediment	14.36 µg/L	6.891 g	0.067 mg/Kg J	1	0.060	0.093			10/29/11 15:45:00	Y	V
10174-013	Cyanide, Total	N/A		Sediment	14.84 µg/L	3.872 g	0.12 mg/Kg J	1	0.06	0.16			10/29/11 15:45:00	N	V
10174-014	Cyanide, Total	N/A		Sediment	14.53 µg/L	5.364 g	0.09 mg/Kg J	1	0.06	0.13			10/29/11 15:45:00	N	V

licates Final Result is not yet adjusted for Solids because it has not yet been determined.

10/13/11 RA 10-31-11

Analytical Results Summary

Instrument Name: K-FIA-03 **Analyst:** RKATZENMYER **Analysis Lot:** 267360 **Method/Testcode:** 9012A/CN Tot

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1110081-010	Cyanide, Total	N/A		Sediment	19.61 µg/L	3.321 g	0.39 mg/Kg J	1	0.12	0.40			10/29/11 15:45:00	N	V
1110081-011	Cyanide, Total	N/A		Sediment	4.97 µg/L	2.792 g	0.43 mg/Kg U	1	0.13	0.43			10/29/11 15:45:00	N	V
1110081-012	Cyanide, Total	N/A		Sediment	2.12 µg/L	2.635 g	0.36 mg/Kg U	1	0.11	0.36			10/29/11 15:45:00	N	V
1110081-013	Cyanide, Total	N/A		Sediment	12.65 µg/L	4.062 g	0.14 mg/Kg J	1	0.07	0.23			10/29/11 15:45:00	N	V
1110081-014	Cyanide, Total	N/A		Sediment	13.62 µg/L	3.147 g	0.14 mg/Kg J	1	0.07	0.20			10/29/11 15:45:00	N	V
1110125-001	Cyanide, Total	N/A		Sediment	3.75 µg/L	2.966 g	0.35 mg/Kg U	1	0.11	0.35			10/29/11 15:45:00	N	V
1110125-002	Cyanide, Total	N/A		Sediment	6.59 µg/L	3.872 g	0.09 mg/Kg J	1	0.08	0.26			10/29/11 15:45:00	N	V
1110125-003	Cyanide, Total	N/A		Sediment	11.20 µg/L	4.502 g	0.11 mg/Kg J	1	0.07	0.20			10/29/11 15:45:00	N	V
1110125-004	Cyanide, Total	N/A		Sediment	12.45 µg/L	4.406 g	0.16 mg/Kg J	1	0.08	0.26			10/29/11 15:45:00	N	V
1110125-005	Cyanide, Total	N/A		Sediment	9.76 µg/L	3.173 g	0.14 mg/Kg J	1	0.09	0.29			10/29/11 15:45:00	N	V
1110125-006	Cyanide, Total	N/A		Sediment	10.41 µg/L	4.257 g	0.12 mg/Kg J	1	0.07	0.22			10/29/11 15:45:00	N	V
1110125-007	Cyanide, Total	N/A		Sediment	9.52 µg/L	3.796 g	0.10 mg/Kg J	1	0.07	0.22			10/29/11 15:45:00	Y	V
1110125-008	Cyanide, Total	N/A		Sediment	16.72 µg/L	2.588 g	0.33 mg/Kg J	1	0.12	0.40			10/29/11 15:45:00	N	V
1110125-009	Cyanide, Total	N/A		Sediment	28.56 µg/L	3.120 g	0.48 mg/Kg	1	0.11	0.34			10/29/11 15:45:00	N	V
1110125-010	Cyanide, Total	N/A		Sediment	17.11 µg/L	3.962 g	0.20 mg/Kg J	1	0.08	0.24			10/29/11 15:45:00	N	V
1110125-011	Cyanide, Total	N/A		Sediment	7.72 µg/L	4.189 g	0.07 mg/Kg J	1	0.06	0.17			10/29/11 15:45:00	N	V
1110148-001	Cyanide, Total	N/A		Sediment	22.45 µg/L	3.176 g	0.37 mg/Kg	1	0.10	0.33			10/29/11 15:45:00	N	V
1110148-002	Cyanide, Total	N/A		Sediment	37.91 µg/L	3.839 g	0.50 mg/Kg	1	0.08	0.26			10/29/11 15:45:00	N	V
1110148-003	Cyanide, Total	N/A		Sediment	60.20 µg/L	3.317 g	0.81 mg/Kg	1	0.09	0.27			10/29/11 15:45:00	N	V
1110148-004	Cyanide, Total	N/A		Sediment	0.00 µg/L	3.107 g	0.23 mg/Kg U	1	0.07	0.23			10/29/11 15:45:00	N	V
1110169-001	Cyanide, Total	N/A		Soil	26.14 µg/L	3.870 g	0.18 mg/Kg	1	0.06	0.14			10/29/11 15:45:00	N	V
1110169-002	Cyanide, Total	N/A		Soil	18.66 µg/L	4.814 g	0.11 mg/Kg J	1	0.06	0.11			10/29/11 15:45:00	N	V
1110169-003	Cyanide, Total	N/A		Soil	42.29 µg/L	4.080 g	0.27 mg/Kg	1	0.06	0.13			10/29/11 15:45:00	N	V
1110169-004	Cyanide, Total	N/A		Soil	8.03 µg/L	4.318 g	0.13 mg/Kg U	1	0.06	0.13			10/29/11 15:45:00	N	V
1110174-001	Cyanide, Total	N/A		Sediment	17.94 µg/L	2.505 g	0.55 mg/Kg J	1	0.19	0.62			10/29/11 15:45:00	N	V
1110174-002	Cyanide, Total	N/A		Sediment	22.78 µg/L	2.692 g	0.39 mg/Kg	1	0.11	0.35			10/29/11 15:45:00	N	V
1110174-003	Cyanide, Total	N/A		Sediment	0.00 µg/L	5.483 g	0.10 mg/Kg U	1	0.06	0.10			10/29/11 15:45:00	N	V
1110174-004	Cyanide, Total	N/A		Sediment	0.00 µg/L	6.715 g	0.084 mg/Kg U	1	0.060	0.084			10/29/11 15:45:00	N	V
1110174-005	Cyanide, Total	N/A		Sediment	1.22 µg/L	5.999 g	0.095 mg/Kg U	1	0.060	0.095			10/29/11 15:45:00	N	V
1110174-006	Cyanide, Total	N/A		Sediment	0.00 µg/L	6.023 g	0.096 mg/Kg U	1	0.060	0.096			10/29/11 15:45:00	N	V
1110174-009	Cyanide, Total	N/A		Sediment	3.04 µg/L	6.412 g	0.094 mg/Kg U	1	0.060	0.094			10/29/11 15:45:00	N	V
1110174-010	Cyanide, Total	N/A		Sediment	6.40 µg/L	5.638 g	0.11 mg/Kg U	1	0.06	0.11			10/29/11 15:45:00	N	V
1110174-011	Cyanide, Total	N/A		Sediment	11.27 µg/L	5.533 g	0.06 mg/Kg J	1	0.06	0.11			10/29/11 15:45:00	N	V
1110174-012	Cyanide, Total	N/A		Sediment	14.36 µg/L	6.891 g	0.067 mg/Kg J	1	0.060	0.093			10/29/11 15:45:00	Y	V
1110174-013	Cyanide, Total	N/A		Sediment	14.84 µg/L	3.872 g	0.12 mg/Kg J	1	0.06	0.16			10/29/11 15:45:00	N	V
1110174-014	Cyanide, Total	N/A		Sediment	14.53 µg/L	5.364 g	0.09 mg/Kg J	1	0.06	0.13			10/29/11 15:45:00	N	V

ndicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-FIA-03 **Analyst:** RKATZENMYER **Analysis Lot:** 267360 **Method/Testcode:** 9012A/CN Tot

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1110212-003	Cyanide, Total	N/A		Soil	246.10 µg/L	2.523 g	12.2 mg/Kg	5	0.30	0.99			10/29/11 15:45:00	N	I
1110227-001	Cyanide, Total	N/A		Soil	35.99 µg/L	3.538 g	0.28 mg/Kg	1	0.06	0.15			10/29/11 15:45:00	N	V
1110251-001	Cyanide, Total	N/A		Sediment	7.50 µg/L	4.460 g	0.06 mg/Kg J	1	0.06	0.17			10/29/11 15:45:00	N	V
1110251-002	Cyanide, Total	N/A		Sediment	9.78 µg/L	5.122 g	0.07 mg/Kg J	1	0.06	0.14			10/29/11 15:45:00	Y	V
1110251-003	Cyanide, Total	N/A		Sediment	5.00 µg/L	3.715 g	0.19 mg/Kg U	1	0.06	0.19			10/29/11 15:45:00	Y	V
1110251-004	Cyanide, Total	N/A		Sediment	26.65 µg/L	4.860 g	0.22 mg/Kg	1	0.06	0.16			10/29/11 15:45:00	N	V
1110251-005	Cyanide, Total	N/A		Sediment	9.64 µg/L	3.488 g	0.09 mg/Kg J	1	0.06	0.18			10/29/11 15:45:00	N	V
1110251-007	Cyanide, Total	N/A		Sediment	6.29 µg/L	3.236 g	0.06 mg/Kg J	1	0.06	0.19			10/29/11 15:45:00	N	V
1110251-008	Cyanide, Total	N/A		Sediment	13.51 µg/L	10.338 g	0.067 mg/Kg U	1	0.060	0.067			10/29/11 15:45:00	N	V
1110251-009	Cyanide, Total	N/A		Sediment	19.07 µg/L	5.618 g	0.12 mg/Kg J	1	0.06	0.13			10/29/11 15:45:00	N	V
1110251-010	Cyanide, Total	N/A		Sediment	18.53 µg/L	4.233 g	0.16 mg/Kg J	1	0.06	0.17			10/29/11 15:45:00	N	V
1110251-011	Cyanide, Total	N/A		Sediment	54.96 µg/L	4.653 g	0.43 mg/Kg	1	0.06	0.16			10/29/11 15:45:00	N	V
1110331-001	Cyanide, Total	N/A		Sediment	26.92 µg/L	3.518 g	0.53 mg/Kg	1	0.12	0.39			10/29/11 15:45:00	N	V
1110331-002	Cyanide, Total	N/A		Sediment	13.31 µg/L	3.250 g	0.23 mg/Kg J	1	0.11	0.34			10/29/11 15:45:00	N	V
1110331-003	Cyanide, Total	N/A		Sediment	27.11 µg/L	2.640 g	0.58 mg/Kg	1	0.13	0.43			10/29/11 15:45:00	N	V
1110331-004	Cyanide, Total	N/A		Sediment	46.31 µg/L	2.829 g	0.98 mg/Kg	1	0.13	0.42			10/29/11 15:45:00	N	V
1110331-005	Cyanide, Total	N/A		Sediment	31.62 µg/L	3.303 g	0.51 mg/Kg	1	0.10	0.32			10/29/11 15:45:00	N	V
1110331-006	Cyanide, Total	N/A		Sediment	20.13 µg/L	3.869 g	0.22 mg/Kg J	1	0.07	0.22			10/29/11 15:45:00	Y	V
1110331-008	Cyanide, Total	N/A		Sediment	25.93 µg/L	2.680 g	0.51 mg/Kg	1	0.12	0.39			10/29/11 15:45:00	N	V
1110363-001	Cyanide, Total	N/A		Soil	5.90 µg/L	4.209 g	0.13 mg/Kg U	1	0.06	0.13			10/29/11 15:45:00	N	V
1110363-002	Cyanide, Total	N/A		Soil	33.35 µg/L	4.802 g	0.18 mg/Kg	1	0.06	0.11			10/29/11 15:45:00	N	V
1110392-001	Cyanide, Total	N/A		Sediment	14.86 µg/L	2.540 g	0.30 mg/Kg J	1	0.12	0.40			10/29/11 15:45:00	N	V
1110392-002	Cyanide, Total	N/A		Sediment	27.84 µg/L	2.792 g	0.47 mg/Kg	1	0.11	0.34			10/29/11 15:45:00	N	V
1110392-003	Cyanide, Total	N/A		Sediment	20.10 µg/L	4.537 g	0.21 mg/Kg J	1	0.07	0.21			10/29/11 15:45:00	Y	V
Q1111826-01	Cyanide, Total	MS	K1110125-007	Sediment	67.55 µg/L	4.737 g	0.58 mg/Kg	1	0.06	0.17	28		10/29/11 15:45:00	N	V
Q1111826-02	Cyanide, Total	DMS	K1110125-007	Sediment	43.17 µg/L	4.391 g	0.40 mg/Kg	1	0.06	0.19	16	55*	10/29/11 15:45:00	N	V
Q1111826-03	Cyanide, Total	LCS		Sediment	230.00 µg/L	1.0546 g	54.5 mg/Kg	10	1.5	4.7	102		10/29/11 15:45:00	N	V
Q1111826-04	Cyanide, Total	MB		Sediment	0.00 µg/L	2.5 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111826-05	Cyanide, Total	DUP	K1110125-007	Sediment	8.10 µg/L	3.187 g	0.10 mg/Kg J	1	0.08	0.26		I	10/29/11 15:45:00	N	V
Q1111835-01	Cyanide, Total	MS	K1110251-003	Sediment	96.43 µg/L	4.910 g	0.69 mg/Kg	1	0.06	0.14	48		10/29/11 15:45:00	N	V
Q1111835-02	Cyanide, Total	DMS	K1110251-003	Sediment	61.09 µg/L	3.163 g	0.68 mg/Kg	1	0.07	0.22	31	43*	10/29/11 15:45:00	N	V
Q1111835-03	Cyanide, Total	DUP	K1110251-003	Sediment	14.71 µg/L	3.818 g	0.14 mg/Kg J	1	0.06	0.18		NC	10/29/11 15:45:00	N	V
Q1111835-05	Cyanide, Total	MS	K1110174-012	Sediment	119.30 µg/L	3.523 g	1.09 mg/Kg	1	0.06	0.18	56		10/29/11 15:45:00	N	V
Q1111835-06	Cyanide, Total	DMS	K1110174-012	Sediment	178.80 µg/L	2.814 g	2.04 mg/Kg	1	0.07	0.23	86	42*	10/29/11 15:45:00	N	V
Q1111835-07	Cyanide, Total	DUP	K1110174-012	Sediment	10.14 µg/L	6.106 g	0.11 mg/Kg U	1	0.06	0.11		NC	10/29/11 15:45:00	N	V
Q1111835-08	Cyanide, Total	MS	K1110251-002	Sediment	102.00 µg/L	3.699 g	0.98 mg/Kg	1	0.06	0.19	47		10/29/11 15:45:00	N	V

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-FIA-03 **Analyst:** RKATZENMYER **Analysis Lot:** 267360 **Method/Testcode:** 9012A/CN Tot

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
Q1111835-09	Cyanide, Total	DMS	K1110251-002	Sediment	165.50 µg/L	3.069 g	1.91 mg/Kg	1	0.07	0.23	80	52*	10/29/11 15:45:00	N	V
Q1111835-10	Cyanide, Total	DUP	K1110251-002	Sediment	8.26 µg/L	5.031 g	0.14 mg/Kg U	1	0.06	0.14		NC	10/29/11 15:45:00	N	V
Q1111835-12	Cyanide, Total	MB		Sediment	0.00 µg/L	2.5 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111835-13	Cyanide, Total	LCS		Sediment	221.20 µg/L	1.0017 g	55.2 mg/Kg	10	1.5	5.0	104		10/29/11 15:45:00	N	V
Q1111835-14	Cyanide, Total	DLCS		Sediment	241.80 µg/L	1.057 g	57.2 mg/Kg	10	1.5	4.7	107	3	10/29/11 15:45:00	N	V
Q1111835-15	Cyanide, Total	LCS		Sediment	5.55 µg/L	2.5 g	0.20 mg/Kg U	1	0.06	0.20	0*		10/29/11 15:45:00	N	V
Q1111836-01	Cyanide, Total	MS	K1110392-003	Sediment	83.40 µg/L	3.414 g	0.61 mg/Kg	1	0.06	0.15	27		10/29/11 15:45:00	N	V
Q1111836-02	Cyanide, Total	DMS	K1110392-003	Sediment	84.29 µg/L	5.152 g	0.409 mg/Kg	1	0.060	0.097	21	25*	10/29/11 15:45:00	N	V
Q1111836-03	Cyanide, Total	LCS		Sediment	241.00 µg/L	1.1018 g	54.7 mg/Kg	10	1.4	4.5	103		10/29/11 15:45:00	N	V
Q1111836-04	Cyanide, Total	MB		Sediment	0.00 µg/L	2.5 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111836-05	Cyanide, Total	DUP	K1110331-006	Sediment	24.73 µg/L	4.545 g	0.14 mg/Kg	1	0.06	0.11		46*	10/29/11 15:45:00	N	V
Q1111836-06	Cyanide, Total	DUP	K1110392-003	Sediment	79.91 µg/L	3.959 g	0.50 mg/Kg	1	0.06	0.13		83*	10/29/11 15:45:00	N	V
Q1111836-07	Cyanide, Total	MS	K1110331-006	Sediment	234.50 µg/L	3.623 g	1.62 mg/Kg	1	0.06	0.14	101		10/29/11 15:45:00	N	V
Q1111836-08	Cyanide, Total	DMS	K1110331-006	Sediment	179.00 µg/L	5.605 g	0.798 mg/Kg	1	0.060	0.089	65	43*	10/29/11 15:45:00	N	V
Q1111935-01	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-02	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-03	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-04	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-05	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-06	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-07	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-08	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-09	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-10	Cyanide, Total	CCB		Sediment	0.00 µg/L	100 g	0.20 mg/Kg U	1	0.06	0.20			10/29/11 15:45:00	N	V
Q1111935-11	Cyanide, Total	CCV		Sediment	99.98 µg/L	100 g	100 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-12	Cyanide, Total	CCV		Sediment	99.56 µg/L	100 g	99.6 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-13	Cyanide, Total	CCV		Sediment	99.78 µg/L	100 g	99.8 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-14	Cyanide, Total	CCV		Sediment	99.67 µg/L	100 g	99.7 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-15	Cyanide, Total	CCV		Sediment	99.66 µg/L	100 g	99.7 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-16	Cyanide, Total	CCV		Sediment	99.09 µg/L	100 g	99.1 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-17	Cyanide, Total	CCV		Sediment	99.56 µg/L	100 g	99.6 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-18	Cyanide, Total	CCV		Sediment	99.65 µg/L	100 g	99.7 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-19	Cyanide, Total	CCV		Sediment	100.20 µg/L	100 g	100 µg/L	1					10/29/11 15:45:00	N	V
Q1111935-20	Cyanide, Total	CCV		Sediment	100.20 µg/L	100 g	100 µg/L	1					10/29/11 15:45:00	N	V

ndicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Author: Omnion User

Date : 10/31/2011

Original Run Filename: OM_10-29-2011_04-43-18PM.OMN created 10/29/2011 4:43:18 PM
Original Run Author's Signature: [Omnion User]
Current Run Filename: OM_10-29-2011_04-43-18PM.OMN last modified 10/29/2011 6:33:45 PM
Current Run Author's Signature: [Omnion User]
Description: Default new Run

Sample	Rep.	Channel 2 Cyanide (ug/L)
Cal Std A	1	300.0
Cal Std B	1	200.0
Cal Std C	1	150.0
Cal Std D	1	100.0
Cal Std E	1	50.00
Cal Std F	1	20.00
Cal Std G	1	10.00
	2	10.00
Blank	1	0.000
	2	0.000
ICV	1	156.4
Calibration:		Table/Fig 1
ICB	1	-0.5866
CCV	1	100.2
Known Conc:		100.0
CCB	1	-0.8040
Known Conc:		0.000
0 15 X2	1	139.9
0 05	1	87.75
MB1	1	-0.5939
MB2	1	-0.7696
MB3	1	-0.8234
LCS1 X10	1	230.0
LCS2 X10	1	221.2
DLCS2 X10	1	241.8
Low LCS	1	5.553
LCS3 X10	1	241.0
CCV	1	100.2
Known Conc:		100.0
CCB	1	-0.8540
Known Conc:		0.000
125-7	1	9.524
125-7d	1	8.100
125-7s	1	67.55
125-7sd	1	43.17
174-12	1	14.36
174-12d	1	10.14
174-12s	1	119.3
174-12sd	1	178.8
251-2	1	9.777
251-2d	1	8.264
CCV	1	99.65
Known Conc:		100.0
CCB	1	-0.6066
Known Conc:		0.000
251-2s	1	102.0
251-2sd	1	165.5
251-3	1	5.002
251-3d	1	14.71
251-3s	1	96.43
251-3sd	1	61.09
331-6	1	20.13
331-6d	1	24.73
331-6s	1	234.5
331-6sd	1	179.0
CCV	1	99.56
Known Conc:		100.0
CCB	1	-0.6172

RK
10-31-11 RK/10/13/11

Known Conc:		0.000
392-3	1	20.10
392-3d	1	79.91
392-3s	1	83.40
392-3sd	1	84.29
081-10	1	19.61
081-11	1	4.967
081-12	1	2.116
081-13	1	12.65
081-14	1	13.62
125-1	1	3.745
CCV	1	99.09
Known Conc:		100.0
CCB	1	-0.4812
Known Conc:		0.000
125-2	1	6.594
125-3	1	11.20
125-4	1	12.45
125-5	1	9.764
125-6	1	10.41
125-8	1	16.72
125-9	1	28.56
125-10	1	17.11
125-11	1	7.715
148-1	1	22.45
CCV	1	99.66
Known Conc:		100.0
CCB	1	-0.7158
Known Conc:		0.000
148-2	1	37.91
148-3	1	60.20
148-4	1	0.8360
169-1	1	26.14
169-2	1	18.66
169-3	1	42.29
169-4	1	8.026
174-1	1	17.94
174-2	1	22.78
174-3	1	0.7754
CCV	1	99.67
Known Conc:		100.0
CCB	1	-0.6818
Known Conc:		0.000
174-4	1	-0.6820
174-5	1	1.222
174-6	1	-0.4969
174-9	1	3.040
174-10	1	6.395
174-11	1	11.27
174-13	1	14.84
174-14	1	14.53
227-1	1	35.99
251-1	1	7.501
CCV	1	99.78
Known Conc:		100.0
CCB	1	-0.7285
Known Conc:		0.000
212-3 X5	1	246.1
251-4	1	26.55
251-5	1	9.636
251-7	1	6.285
251-8	1	13.51
251-9	1	19.07
251-10	1	18.53
251-11	1	54.96
331-1	1	26.92
331-2	1	13.31

RK
10-24-11 Rev 10/13/11

Author: Omnion User

Date : 10/31/2011

(9) CCV	1	99.56
	Known Conc:	100.0
CCB	1	-0.5810
	Known Conc:	0.000
331-3	1	27.11
331-4	1	46.31
331-5	1	31.62
331-8	1	25.93
363-1	1	5.903
363-2	1	33.35
392-1	1	14.86
392-2	1	27.84
0.05 UNDISTILLED	1	50.67
(10) CCV	1	99.98
	Known Conc:	100.0
CCB	1	-0.6763
	Known Conc.	0.000

Channel 2 (Cyanides) : Current View

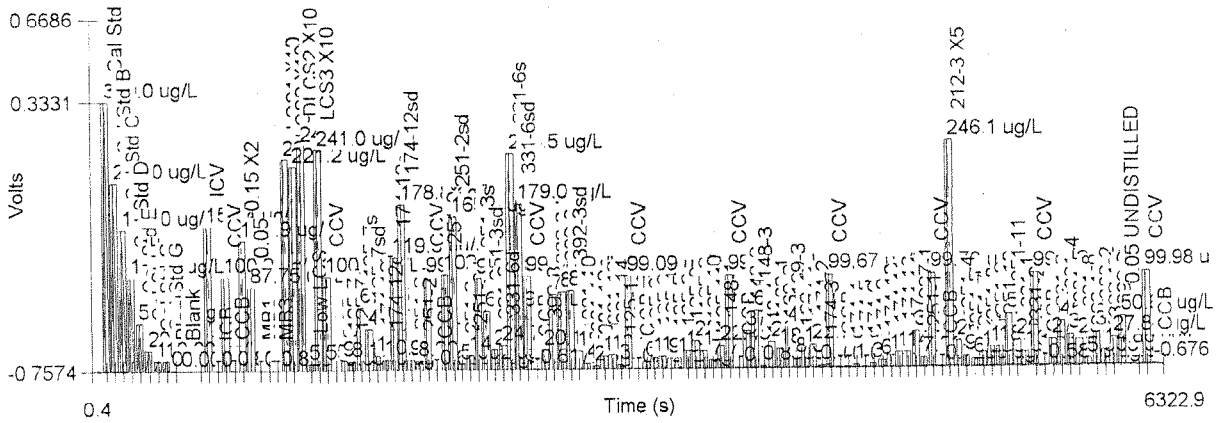


Table 1: Cyanide

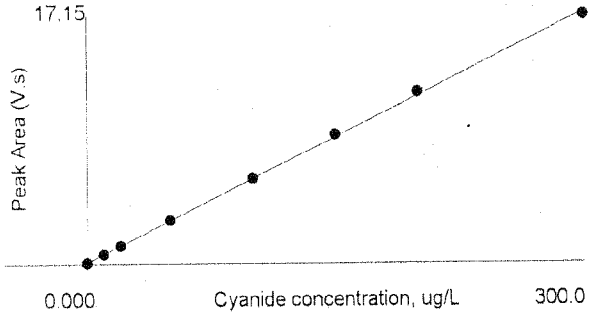
	Known Conc. (ug/L)	Rep	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc. (ug/L)	Detection Date	Detection Time
1	300.0	1	17.15	1.086	0.0	1.3	296.0	10/29/2011	4:44:06 PM
2	200.0	1	11.84	0.7546	0.0	-2.0	204.0	10/29/2011	4:44:56 PM
3	150.0	1	8.860	0.5648	0.0	-1.6	152.4	10/29/2011	4:45:48 PM
4	100.0	1	5.834	0.3721	0.0	0.0	99.97	10/29/2011	4:46:40 PM
5	50.00	1	2.955	0.1908	0.0	-0.2	50.11	10/29/2011	4:47:33 PM
6	20.00	1	1.217	0.07903	0.0	0.1	20.01	10/29/2011	4:48:26 PM
7	10.00	1	0.6124	0.04013	0.8	4.3	9.549	10/29/2011	4:49:21 PM
8	10.00	2	0.6196	0.03988	0.8	3.2	9.672	10/29/2011	4:50:16 PM
9	0.000	1	0.006618	0.002248			-0.9426	10/29/2011	4:51:10 PM
10	0.000	2	0.01560	0.001752			-0.7871	10/29/2011	4:52:05 PM

RK
10-31-11 Qw/10/31/11

Author: Omnion User

Date : 10/31/2011

Figure 1: Cyanide



Area = 0.05772 * Conc + 0.06306
Conc = 17.32 * Area - 1.057
Correlation Coefficient (r) = 0.99979

No Weighting

RA 10/31/11

COLUMBIA ANALYTICAL SERVICES, INC. Page of

Method: EPA 335.1 / 335.4
9012 / SM 4500-CN I&E / SM 4500-CN C&E

Analysis: Total CN^- CN^- WAD Chlor. CN^-

Method modified using the Lachat Autoanalyzer for the colorimetric analysis.

Date Prepared	Lab Sample ID	Sample dilution	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	ug/L -(in solution)	mg/L - mg/kg As Rec'd	% REC.
10/31/2011	0.15	2	50.0	25.0	139.9	0.1399	93.3
10/31/2011	0.05	1	50.0	25.0	87.75	0.0439	87.8
10/31/2011	0.05 Undistilled	1	50.0	25.0	50.67	0.0253	50.7

Spike = (10ppm*0.5ml)/50ml = 0.100mg/L LCS TV = 53.3 mg/L

Spike ID: CN/1-11-M LCS ID: CN/1-51-A

MS/MSD %Rec. = (34,22) (48,31) (56,86) (34, 31) (108,75) LCS % Rec. = 107

CCV = (10ppm*1.0ml)/100ml = 100ug/L

CCV ID: CN/1-21-S

CCV % Rec. = 100, 100, 100, 100, 100, 99, 100, 100. 100, 100

ICV = (10ppm*1.5ml)/100 = 150ug/L

ICV ID: CN/1-31-S

ICV % Rec: 104

Prepared By: RANDY KATZENMYER	Date Prepared: 10/29/11
Analyzed By: RANDY KATZENMYER	Date Analyzed: 10/29/11
Reviewed By:	Date Reviewed: 10/31/11

RK 10-31-11

Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 145283 **Prep Workflow:** Gen Dist CN **Status:** Prepped **Prep Date:** 10/28/2011 15:00
Team: GenChem **Prep Method:** Method **Current Step:** Distillation **Due Date:** 10/23/2011
Analyst: RKatzenmyer **Rush/NPDES:** N/A **Hold Date:** 11/11/2011

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111826-04	Method Blank		2.5 g	25 mL			
KQ1111826-03	Lab Control Sample		1.0546 g	25 mL	1.0546 g	16255	
K1110081-010	11B-0342-C6BS	.02	3.321 g	25 mL			
K1110081-011	11B-0342-C6CS	.02	2.792 g	25 mL			
K1110081-012	11B-0342-C6DS	.02	2.635 g	25 mL			
K1110081-013	11B-0342-C6DT	.02	4.062 g	25 mL			
K1110081-014	11B-0342-C6ES	.02	3.147 g	25 mL			
K1110125-001	11B-0306-C3AS	.01	2.966 g	25 mL			
K1110125-002	11B-0306-C1BS	.01	3.872 g	25 mL			
K1110125-003	11B-0306-C1CS	.01	4.502 g	25 mL			
K1110125-004	11B-0306-C3DS	.01	4.406 g	25 mL			
K1110125-005	11B-0306-C3ES	.01	3.173 g	25 mL			
K1110125-006	11B-0306-C3ET	.01	4.257 g	25 mL			
K1110125-007	11B-0306-C3FS	.01	3.796 g	25 mL			

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K1110125-007: KQ1111826-05	Duplicate	.01	3.187 g	25 mL			
K1110125-007: KQ1111826-01	Matrix Spike	.01	4.737 g	25 mL	0.5 mL	34866	
K1110125-007: KQ1111826-02	Duplicate Matrix Spike	.01	4.391 g	25 mL	0.5 mL	34866	
K1110125-008	11B-0306-C3GS	.01	2.588 g	25 mL			
K1110125-009	11B-0306-C3HS	.01	3.120 g	25 mL			
K1110125-010	11B-0306-C3IS	.01	3.962 g	25 mL			
K1110125-011	11B-0306-C3JS	.01	4.189 g	25 mL			
K1110148-001	11B-0314-C1ES	.01	3.176 g	25 mL			
K1110148-002	11B-0314-C1FS	.01	3.839 g	25 mL			
K1110148-003	11B-0314-C1GS	.01	3.317 g	25 mL			
K1110148-004	11B-0314-C1HS	.01	3.107 g	25 mL			

25 Total Samples consisting of 20 Client Samples, 3 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
Cyanide 10 ppm as CN	Spike	34866	9/13/2012	Cyanide LCS Soil	Spike	16255	5/17/2016

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Distillation	28-OCT-11 15:00	28-OCT-11 16:30	RKatzenmyer		N	

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Comments

Review

Reviewed by: [signature] Date: 10/31/11

Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 145283 **Prep Workflow:** Gen Dist CN **Status:** Draft **Prep Date:** 10/28/2011 08:28
Team: GenChem **Prep Method:** Method **Current Step:** Distillation **Due Date:** 10/23/2011
Analyst: RKATZENMYER **Rush/NPDES:** N/A **Hold Date:** 10/31/2011

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111826-04	Method Blank		g				
KQ1111826-03	Lab Control Sample		g 1.0546				
K1110081-010	11B-0342-C6BS	.02	2.5 g 3.321	25			
K1110081-011	11B-0342-C6CS	.02	2.5 g 2.792	25			
K1110081-012	11B-0342-C6DS	.02	2.5 g 2.635	25			
K1110081-013	11B-0342-C6DT	.02	2.5 g 4.062	25			
K1110081-014	11B-0342-C6ES	.02	2.5 g 3.147	25			
K1110125-001	11B-0306-C3AS	.01	2.5 g 2.966	25			
K1110125-002	11B-0306-C1BS	.01	2.5 g 3.872	25			
K1110125-003	11B-0306-C1CS	.01	2.5 g 4.502	25			
K1110125-004	11B-0306-C3DS	.01	2.5 g 4.406	25			
K1110125-005	11B-0306-C3ES	.01	2.5 g 3.173	25			
K1110125-006	11B-0306-C3ET	.01	2.5 g 4.257	25			
K1110125-007	11B-0306-C3FS	.01	2.5 g 3.796	25			

lw/10/31/11

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K1110125-007: KQ1111826-05	Duplicate	.01	3.157 g				
K1110125-007: KQ1111826-01	Matrix Spike	.01	4.737 g				
K1110125-007: KQ1111826-02	Duplicate Matrix Spike	.01	4.391 g				
K1110125-008	11B-0306-C3GS	.01	2.588 2.5 g	25			
K1110125-009	11B-0306-C3HS	.01	3.120 2.5 g	25			
K1110125-010	11B-0306-C3IS	.01	3.962 2.5 g	25			
K1110125-011	11B-0306-C3JS	.01	4.189 2.5 g	25			
K1110148-001	11B-0314-C1ES	.01	3.176 2.5 g	25			
K1110148-002	11B-0314-C1FS	.01	3.839 2.5 g	25			
K1110148-003	11B-0314-C1GS	.01	3.317 2.5 g	25			
K1110148-004	11B-0314-C1HS	.01	3.107 2.5 g	25			

25 Total Samples consisting of 20 Client Samples, 3 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Distillation					N	

Comments

Rev 1 10/31/11

RR 10-31-11

Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 145291 **Prep Workflow:** Gen Dist CN **Status:** Prepped **Prep Date:** 10/28/2011 16:30
Team: GenChem **Prep Method:** Method **Current Step:** Distillation **Due Date:** 11/06/2011
Analyst: RKatzenmyer **Rush/NPDES:** N/A **Hold Date:** 11/11/2011

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111835-12	Method Blank		2.5 g	25 mL			
KQ1111835-13	Lab Control Sample		1.0017 g	25 mL	1.0017 g	16255	
KQ1111835-14	Duplicate Lab Control Sample		1.057 g	25 mL	1.057 g	16255	
KQ1111835-15	Lab Control Sample		0.685 mL	25 mL	0.685 mL	36258	
K1110169-001	CZBS0079S005 Soil	.01	3.870 g	25 mL			
K1110169-002	CZBS0064S005 Soil	.01	4.814 g	25 mL			
K1110169-003	CZBS0019S005 Soil	.01	4.080 g	25 mL			
K1110169-004	CZBS0040S035 Soil	.01	4.318 g	25 mL			
K1110174-001	11B-0334-C1AS	.01	2.505 g	25 mL			
K1110174-002	11B-0334-C1BS	.01	2.692 g	25 mL			
K1110174-003	11B-0334-C1CS	.01	5.483 g	25 mL			
K1110174-004	11B-0334-C1DS	.01	6.715 g	25 mL			
K1110174-005	11B-0334-C1ES	.01	5.999 g	25 mL			
K1110174-006	11B-0334-C1FS	.01	6.023 g	25 mL			

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K1110174-009	11B-0336-C9AS	.01	6.412 g	25 mL			
K1110174-010	11B-0336-C5BS	.01	5.638 g	25 mL			
K1110174-011	11B-0336-C5BT	.01	5.533 g	25 mL			
K1110174-012	11B-0336-C5CS	.01	6.891 g	25 mL			Heterogenous Sample
K1110174-012: KQ1111835-07	Duplicate	.01	6.106 g	25 mL			Heterogenous Sample
K1110174-012: KQ1111835-05	Matrix Spike	.01	3.523 g	25 mL	0.5 mL	34866	Heterogenous Sample
K1110174-012: KQ1111835-06	Duplicate Matrix Spike	.01	2.814 g	25 mL	0.5 mL	34866	Heterogenous Sample
K1110174-013	11B-0336-C9DS	.01	3.872 g	25 mL			
K1110174-014	11B-0336-C5ES	.01	5.364 g	25 mL			
K1110227-001	CZBS0054S005 Soil	.02	3.538 g	25 mL			
K1110251-001	11B-0303-C1AS	.01	4.460 g	25 mL			
K1110251-002	11B-0303-C1BS	.01	5.122 g	25 mL			
K1110251-002: KQ1111835-10	Duplicate	.01	5.031 g	25 mL			
K1110251-002: KQ1111835-08	Matrix Spike	.01	3.699 g	25 mL	0.5 mL	34866	
K1110251-002: KQ1111835-09	Duplicate Matrix Spike	.01	3.069 g	25 mL	0.5 mL	34866	
K1110251-003	11B-0303-C1DS	.01	3.715 g	25 mL			Heterogenous Sample
K1110251-003: KQ1111835-03	Duplicate	.01	3.818 g	25 mL			Heterogenous Sample
K1110251-003: KQ1111835-01	Matrix Spike	.01	4.910 g	25 mL	0.5 mL	34866	Heterogenous Sample
K1110251-003: KQ1111835-02	Duplicate Matrix Spike	.01	3.163 g	25 mL	0.5 mL	34866	Heterogenous Sample

33 Total Samples consisting of 20 Client Samples, 9 Client QC Samples, 4 Batch QC Samples associated with the current Prep

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10/10/13 VOA

Run.

Spiking Solutions

Name	Type	ID	Expires
Cyanide 10 ppm as CN	Spike	34866	9/13/2012
Cyanide LCS Soil	Spike	16255	5/17/2016

Name	Type	ID	Expires
Cyanide Working LCS Total	Spike	36258	2/7/2012

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Distillation	28-OCT-11 16:30	29-OCT-11 13:00	RKatzenmyer		N	

Comments

Review

Reviewed by: lw Date: 10/31/11

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Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 145291 **Prep Workflow:** Gen Dist CN **Status:** Draft **Prep Date:** 10/28/2011 09:03
Team: GenChem **Prep Method:** Method **Current Step:** Distillation **Due Date:** 10/30/2011
Analyst: RKATZENMYER **Rush/NPDES:** N/A **Hold Date:** 11/02/2011

LCS & MRL + DLCS

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111835-12	Method Blank 2		2.5 g				
KQ1111835-11	Lab Control Sample 2		1.0017 g				
K1110169-001	CZBS0079S005 Soil	.01	2.5 g 2.870	25			
K1110169-002	CZBS0064S005 Soil	.01	2.5 g 4.814	25			
K1110169-003	CZBS0019S005 Soil	.01	2.5 g 4.050	25			
K1110169-004	CZBS0040S035 Soil	.01	2.5 g 4.318	25			
K1110174-001	11B-0334-C1AS	.01	2.5 g 2.505				
K1110174-002	11B-0334-C1BS	.01	2.5 g 2.692				
K1110174-003	11B-0334-C1CS	.01	2.5 g 5.483				
K1110174-004	11B-0334-C1DS	.01	2.5 g 6.715				
K1110174-005	11B-0334-C1ES	.01	2.5 g 5.774				
K1110174-006	11B-0334-C1FS	.01	2.5 g 6.023				
K1110174-009	11B-0336-C9AS	.01	2.5 g 6.412				
K1110174-010	11B-0336-C5BS	.01	2.5 g 5.638				

dw/10/31/11

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K1110174-011	11B-0336-C5BT	.01	2.5 g 5.533				
K1110174-012	11B-0336-C5CS	.01	2.5 g 6.891	NH			
K1110174-012: KQ1111835-07	Duplicate	.01	g 6.106	↓			
K1110174-012: KQ1111835-05	Matrix Spike	.01	g 3.523	↓			
K1110174-012: KQ1111835-06	Duplicate Matrix Spike	.01	g 2.814	↓			
K1110174-013	11B-0336-C9DS	.01	2.5 g 3.872				
K1110174-014	11B-0336-C5ES	.01	2.5 g 5.764				
K1110227-001	CZBS0054S005 Soil	.02	2.5 g 3.538				
K1110251-001	11B-0303-C1AS	.01	2.5 g 4.960				
K1110251-002	11B-0303-C1BS	.01	2.5 g 5.122				
K1110251-002: KQ1111835-10	Duplicate	.01	g 5.031				
K1110251-002: KQ1111835-08	Matrix Spike	.01	g 3.699				
K1110251-002: KQ1111835-09	Duplicate Matrix Spike	.01	g 3.069				
K1110251-003	11B-0303-C1DS	.01	2.5 g 3.715	NH			
K1110251-003: KQ1111835-03	Duplicate	.01	g 3.818	↓			
K1110251-003: KQ1111835-01	Matrix Spike	.01	g 4.910	↓			
K1110251-003: KQ1111835-02	Duplicate Matrix Spike	.01	g 3.160	↓			

31 Total Samples consisting of 20 Client Samples, 9 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run. DLCS: 1.057

Spiking Solutions

2 Al 10/13/11

RK 10-28-11

10/28/2011

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Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 145292 **Prep Workflow:** Gen Dist CN **Status:** Prepped **Prep Date:** 10/28/2011 16:30
Team: GenChem **Prep Method:** Method **Current Step:** Distillation **Due Date:** 10/31/2011
Analyst: RKatzenmyer **Rush/NPDES:** N/A **Hold Date:** 11/03/2011

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111836-04	Method Blank		2.5 g	25 mL			
KQ1111836-03	Lab Control Sample		1.1018 g	25 mL	1.1018 g	16255	
K1110212-003	Cyanide	.01	2.523 g	25 mL			
K1110251-004	11B-0303-C1ES	.01	4.860 g	25 mL			
K1110251-005	11B-0303-C6CS	.01	3.488 g	25 mL			
K1110251-007	11B-0303-C6CT	.01	3.236 g	25 mL			
K1110251-008	11B-0352-C8AS	.01	10.338 g	25 mL			
K1110251-009	11B-0352-C8BS	.01	5.618 g	25 mL			
K1110251-010	11B-0352-C8CS	.01	4.233 g	25 mL			
K1110251-011	11B-0352-C8DS	.01	4.653 g	25 mL			
K1110331-001	11B-0338-C3AS	.02	3.518 g	25 mL			
K1110331-002	11B-0338-C3BS	.02	3.250 g	25 mL			
K1110331-003	11B-0338-C3CS	.02	2.640 g	25 mL			
K1110331-004	11B-0338-C1DS	.02	2.829 g	25 mL			

lw 10/31/11

K1110331-005	11B-0338-C1ES	.02	3.303 g	25 mL			
K1110331-006	11B-0338-C1FS	.02	3.869 g	25 mL			
K1110331-006: KQ1111836-05	Duplicate	.02	4.545 g	25 mL			
K1110331-006: KQ1111836-07	Matrix Spike	.02	3.623 g	25 mL	0.5 mL	34866	
K1110331-006: KQ1111836-08	Duplicate Matrix Spike	.02	5.605 g	25 mL	0.5 mL	34866	
K1110331-008	11B-0338-C1ET	.01	2.680 g	25 mL			
K1110363-001	CZBS0069S005 Soil	.01	4.209 g	25 mL			
K1110363-002	CZBS0089S005 Soil	.01	4.802 g	25 mL			
K1110392-001	11B-0310-C3ES	.02	2.540 g	25 mL			
K1110392-002	11B-0310-C3FS	.02	2.792 g	25 mL			
K1110392-003	11B-0310-C3GS	.02	4.537 g	25 mL			Heterogenous Sample
K1110392-003: KQ1111836-06	Duplicate	.02	3.959 g	25 mL			Heterogenous Sample
K1110392-003: KQ1111836-01	Matrix Spike	.02	3.414 g	25 mL	0.5 mL	34866	Heterogenous Sample
K1110392-003: KQ1111836-02	Duplicate Matrix Spike	.02	5.152 g	25 mL	0.5 mL	34866	Heterogenous Sample

28 Total Samples consisting of 20 Client Samples, 6 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
Cyanide 10 ppm as CN	Spike	34866	9/13/2012	Cyanide LCS Soil	Spike	16255	5/17/2016

Preparation Materials

Preparation Hardware / Equipment

ldw 10/31/11

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Distillation	28-OCT-11 16:30	29-OCT-11 13:00	RKatzenmyer		N	

Comments

Review

Reviewed by: _____ Date: 10/3/11

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Columbia Analytical Services

Preparation Information Benchsheet

Prep Run: 145292 **Prep Workflow:** Gen Dist CN **Status:** Draft **Prep Date:** 10/28/2011 09:07
Team: GenChem **Prep Method:** Method **Current Step:** Distillation **Due Date:** 10/31/2011
Analyst: RKATZENMYER **Rush/NPDES:** N/A **Hold Date:** 11/03/2011

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1111836-04	Method Blank 3		g				
KQ1111836-03	Lab Control Sample 3		g 1.1018				
K1110212-003	Cyanide	.01	2.5 g ~~2.5202~~	RK 10-29-11 2.523			
K1110251-004	11B-0303-C1ES	.01	2.5 g 4.960				
K1110251-005	11B-0303-C6CS	.01	2.5 g 3.484				
K1110251-007	11B-0303-C6CT	.01	2.5 g 3.236				
K1110251-008	11B-0352-C8AS	.01	2.5 g 10.338				
K1110251-009	11B-0352-C8BS	.01	2.5 g 5.618				
K1110251-010	11B-0352-C8CS	.01	2.5 g 4.233				
K1110251-011	11B-0352-C8DS	.01	2.5 g 4.653				
K1110331-001	11B-0338-C3AS	.02	2.5 g 3.518				
K1110331-002	11B-0338-C3BS	.02	2.5 g 3.250				
K1110331-003	11B-0338-C3CS	.02	2.5 g 2.640				
K1110331-004	11B-0338-C1DS	.02	2.5 g 2.529				

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K1110331-005	11B-0338-C1ES	.02	2.5 g 3.703				
K1110331-006	11B-0338-C1FS	.02	2.5 g 3.869				
K1110331-006: KQ1111836-05	Duplicate	.02	g 4.545				
K1110331-006: KQ1111836-07	Matrix Spike	.02	g 3.623				
K1110331-006: KQ1111836-08	Duplicate Matrix Spike	.02	g 5.605				
K1110331-008	11B-0338-C1ET	.01	2.5 g 2.650				
K1110363-001	CZBS0069S005 Soil	.01	2.5 g 4.209				
K1110363-002	CZBS0089S005 Soil	.01	2.5 g 4.502				
K1110392-001	11B-0310-C3ES	.02	2.5 g 2.510				
K1110392-002	11B-0310-C3FS	.02	2.5 g 2.792				
K1110392-003	11B-0310-C3GS	.02	2.5 g 4.537	NH			
K1110392-003: KQ1111836-06	Duplicate	.02	g 3.959				
K1110392-003: KQ1111836-01	Matrix Spike	.02	g 3.414				
K1110392-003: KQ1111836-02	Duplicate Matrix Spike	.02	g 5.152				

28 Total Samples consisting of 20 Client Samples, 6 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions lah/10/31/11

Preparation Materials

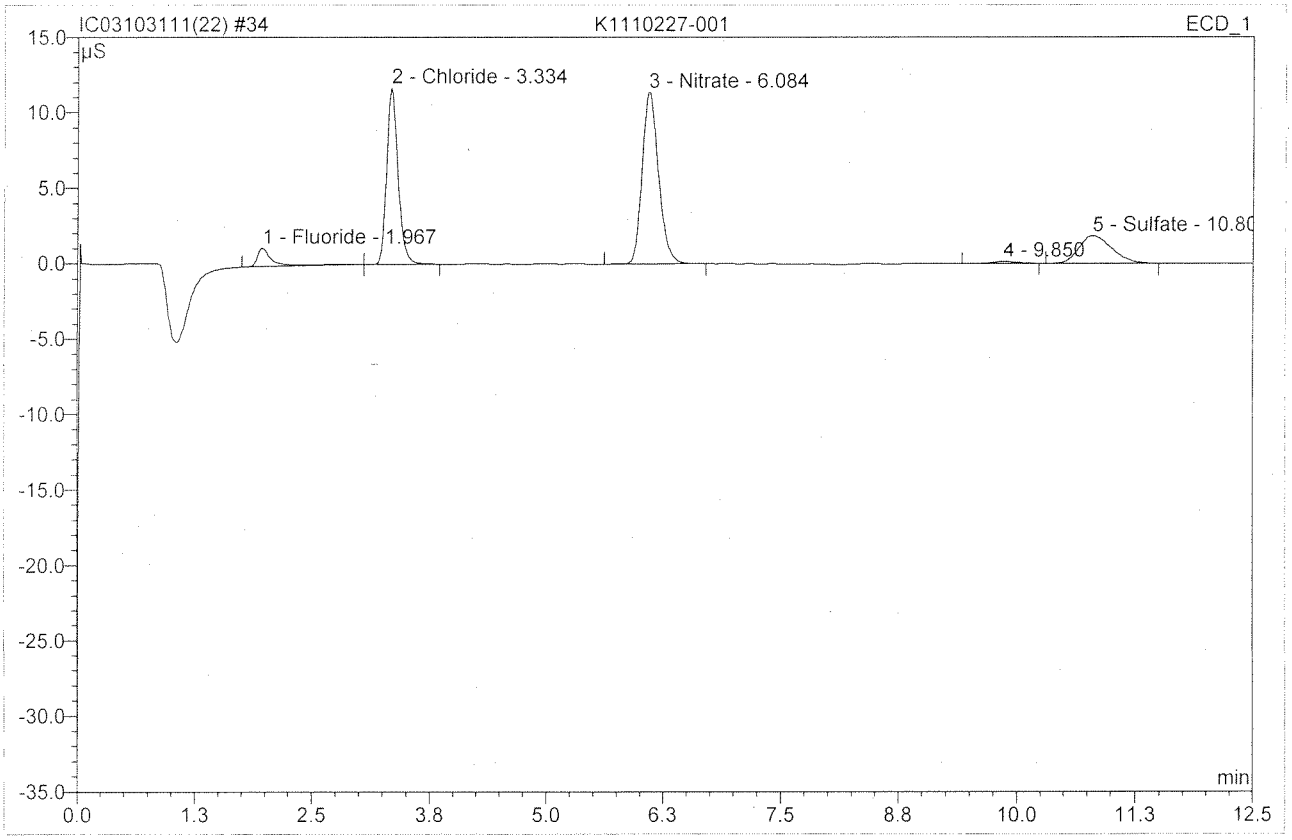
Preparation Hardware / Equipment

RA 10-31-11

34 K1110227-001

EXT F

Sample Name:	**K1110227-001**	*Injection Volume:*	**200.0**
Vial Number:	**51**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**2.0000**
Recording Time:	**10/31/2011 17:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

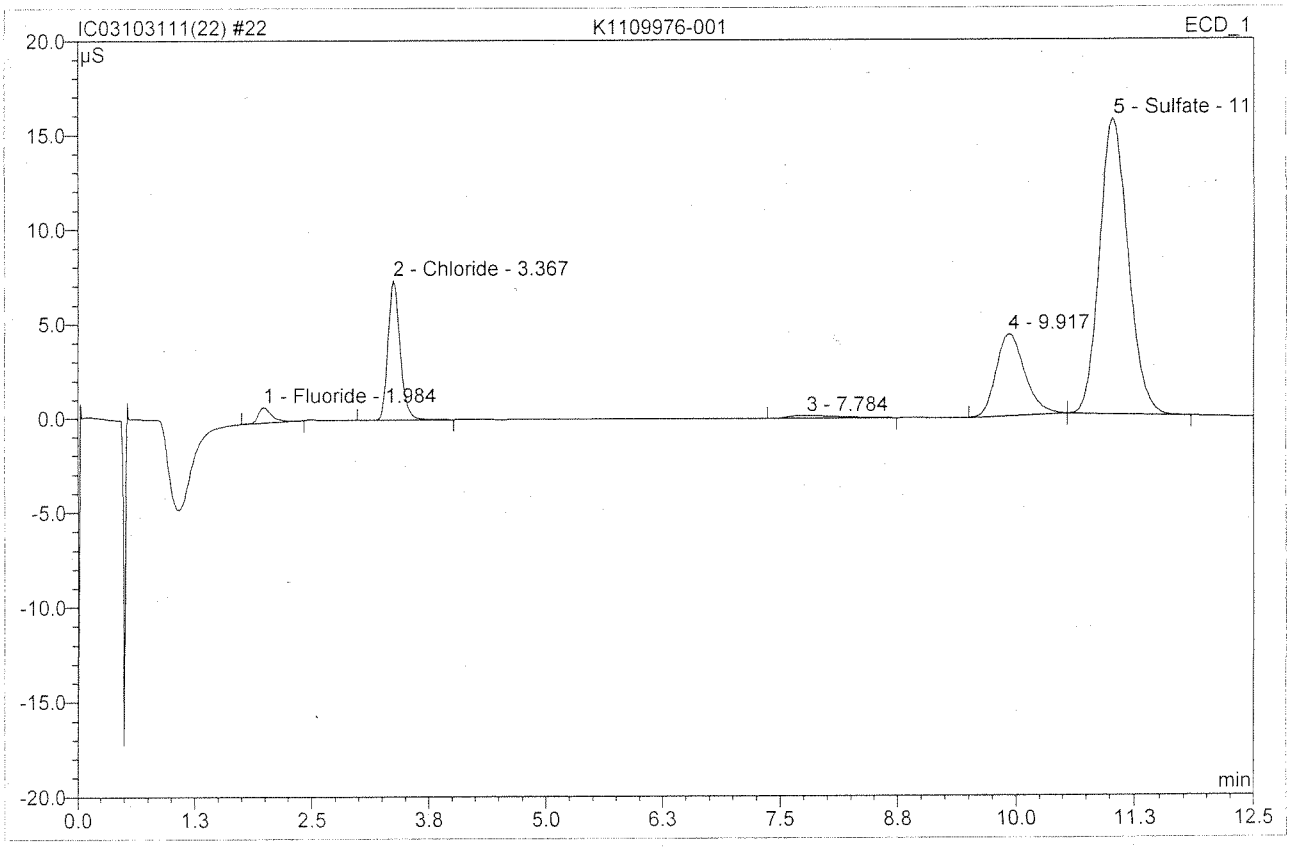


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.97	Fluoride	1.229	0.233	4.70	0.221	BMB
2	3.33	Chloride	11.680	1.635	32.99	2.055	bMB
3	6.08	Nitrate	11.374	2.315	46.72	1.177	BMB
4	9.85	n.a.	0.122	0.042	0.85	n.a.	BMB
5	10.80	Sulfate	1.845	0.730	14.74	1.465	BMB
Total:			26.249	4.955	100.00	4.918	

22 K1109976-001

EXT

Sample Name:	**K1109976-001**	*Injection Volume:*	**200.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/31/2011 14:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

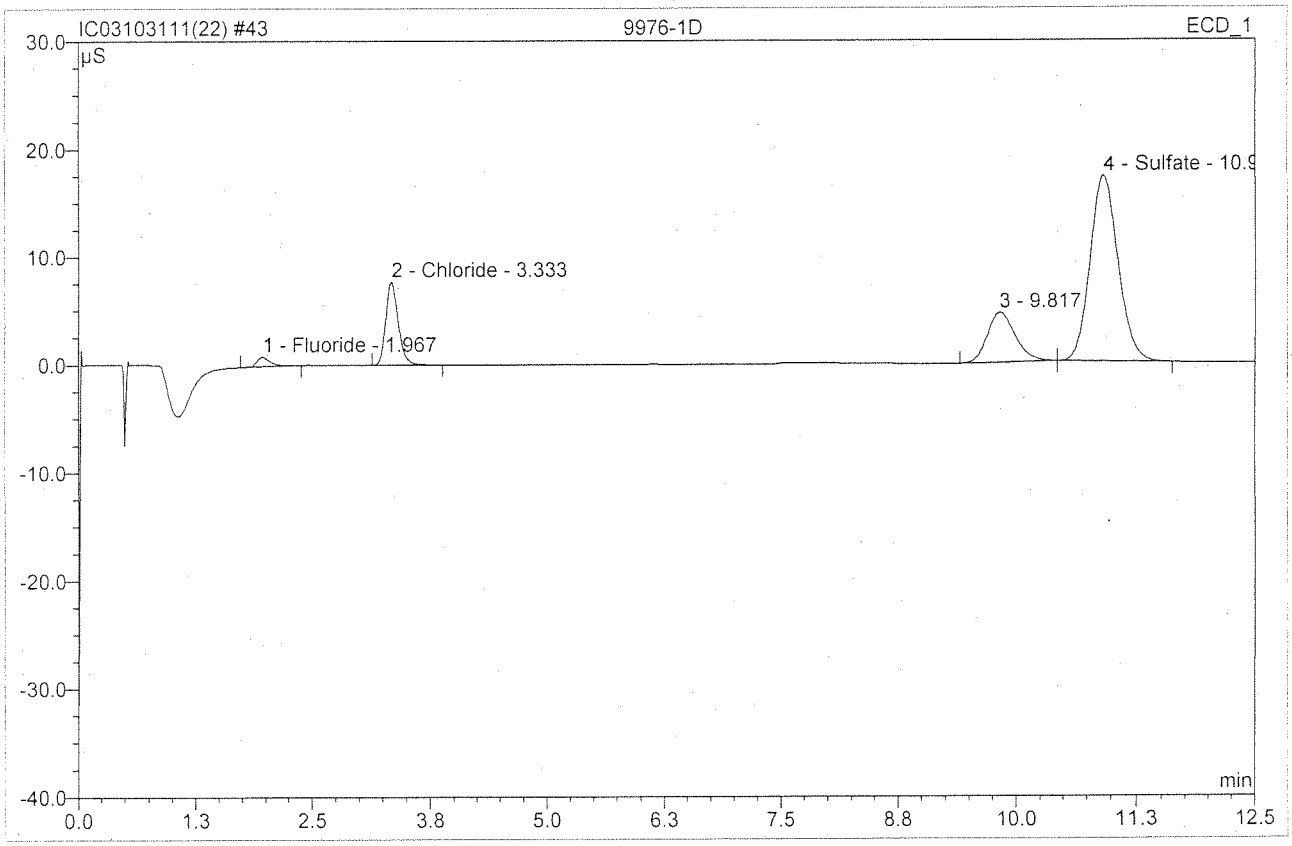


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.98	Fluoride	0.833	0.136	1.65	0.646	BMB
2	3.37	Chloride	7.389	1.126	13.63	7.076	BMB
3	7.78	n.a.	0.151	0.093	1.13	n.a.	BMB
4	9.92	n.a.	4.357	1.529	18.51	n.a.	BMb
5	11.03	Sulfate	15.651	5.377	65.09	53.910	bMB
Total:			28.382	8.261	100.00	61.632	

43 9976-1D

EXT F

Sample Name:	**9976-1D**	*Injection Volume:*	**200.0**
Vial Number:	**60**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/31/2011 19:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

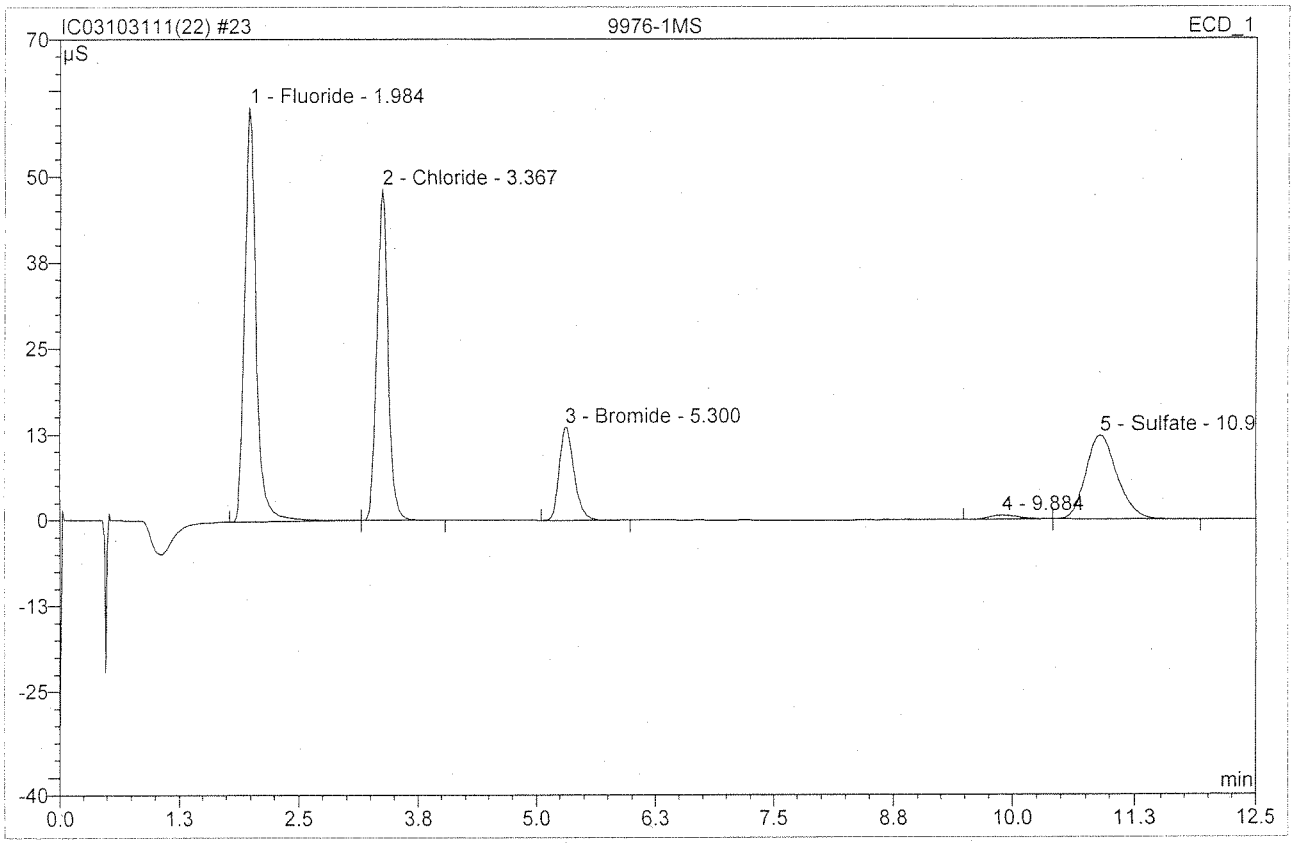


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.97	Fluoride	0.874	0.143	1.64	0.678	BMB
2	3.33	Chloride	7.740	1.165	13.32	7.325	BMB
3	9.82	n.a.	4.642	1.594	18.23	n.a.	BMb
4	10.92	Sulfate	17.328	5.844	66.82	58.595	bMB
Total:			30.585	8.746	100.00	66.599	

23 9976-1MS

MSEXT

Sample Name:	**9976-1MS**	*Injection Volume:*	**200.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**100.0000**
Recording Time:	**10/31/2011 14:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

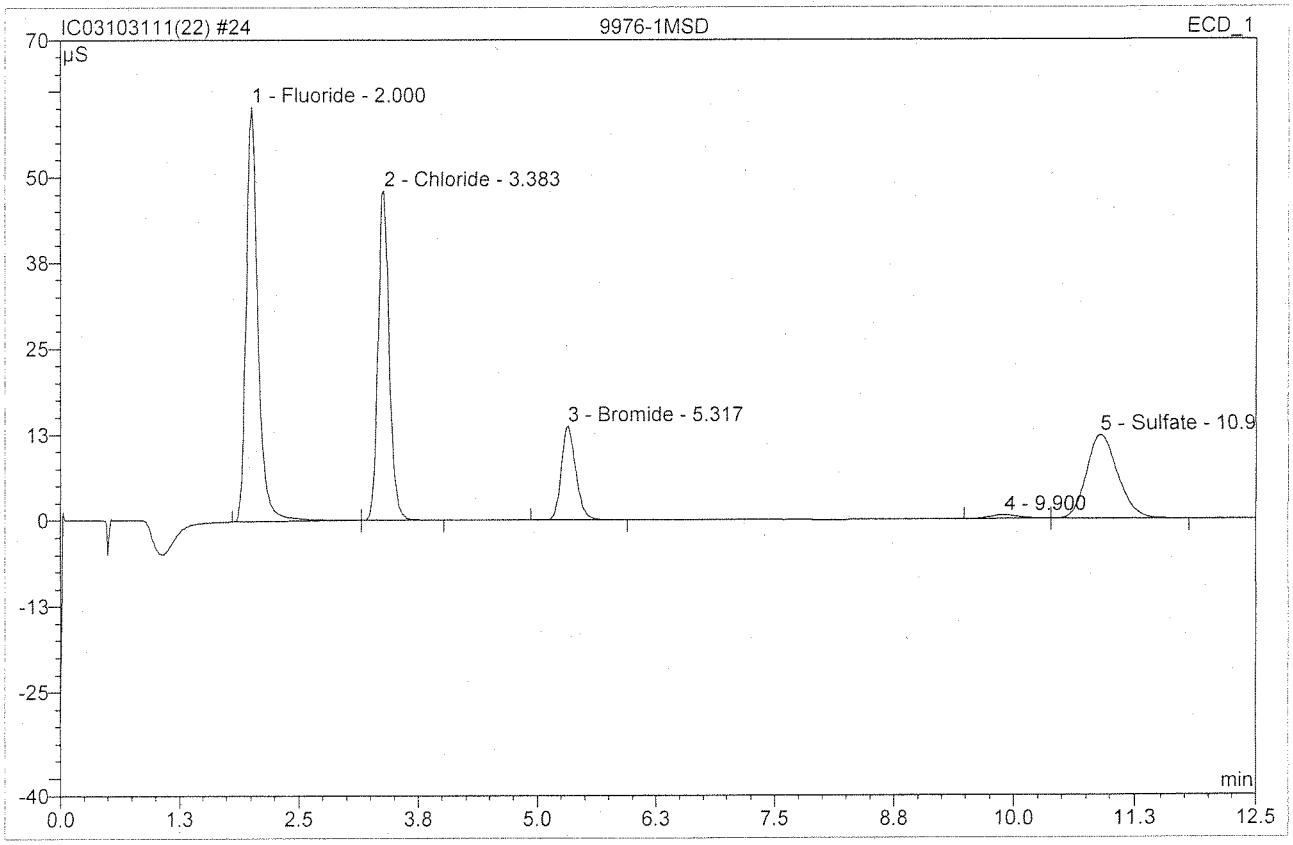


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.98	Fluoride	60.230	8.412	37.93	398.950	BMb
2	3.37	Chloride	48.247	6.554	29.55	412.032	bMB
3	5.30	Bromide	13.543	2.444	11.02	438.862	BMB
4	9.88	n.a.	0.605	0.226	1.02	n.a.	BMb
5	10.90	Sulfate	12.204	4.541	20.48	455.301	bMB
Total:			134.829	22.178	100.00	1705.145	

24 9976-1MSD

MSDEXT

Sample Name:	**9976-1MSD**	*Injection Volume:*	**200.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**100.0000**
Recording Time:	**10/31/2011 14:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.00	Fluoride	60.451	8.507	38.26	403.464	BMb
2	3.38	Chloride	48.027	6.500	29.23	408.644	bMB
3	5.32	Bromide	13.653	2.457	11.05	441.286	BMB
4	9.90	n.a.	0.552	0.202	0.91	n.a.	BMb
5	10.90	Sulfate	12.211	4.568	20.54	457.988	bMB
Total:			134.893	22.235	100.00	1711.381	

Sequence # I-031031111(72) Ion Chromatography Data Quality Report Run # 267609, 267615
Inorganics

1. Holding times met for all samples analyzed? yes/no/NA
2. Are dilutions within upper limits of the curve? yes/no/NA
3. Were peaks manually integrated? yes/no/NA
   a.)Does DOD QUAPP apply? yes/no/NA
4. Are detection limits reported correctly? yes/no/NA
5. Are all quality control criteria met?
   a. Method Blanks, CCV's, CCB's, LCS's, Dups, and Spikes analyzed at the proper frequency? yes/no/NA
   b. Are CCV's and CCB's all within acceptance limits? yes/no/NA
   c. Are results for Method Blanks all ND? yes/no/NA
   d. Are all QC samples within acceptance criteria? (LCS% rec, MS% rec, Duplicate RPD's, etc.) yes/no/NA
   e. Are all exceptions explained? yes/no/NA
6. Are all samples labelled correctly? yes/no/NA

CAS Standard Identification Codes and Abbreviated Footnotes for Chromatograms

G1 Sample was analyzed past the end of recommended holding time. See Nonconformity sheet.
G2 Sample was reanalyzed past holding time. Initial analysis was performed within recommended holding time.
G4 Sample was received past the end of recommended holding time.
R1 High RPD is because the duplicate sample results are less than three times the method reporting limit.
i MRL is elevated because of matrix interferences and the sample required diluting.
F Sample filtered primary to analysis.

LCS

Fluoride	True Value = 17.2 ppm	CAS ID # = AN1-34-EE	Expires: 4.13.12
Chloride	True Value = 5.0ppm	CAS ID # = ERA#0624-11-03	Expires: 1.1.12
Nitrite	True Value = 100 ppm	CAS ID # = AN11-91-NJEE	Expires: 10.31.11
Bromide	True Value = 4.0 ppm	CAS ID # = AN1-34-S	Expires: 12.9.11
Nitrate	True Value = 17.7 ppm	CAS ID # = AN1-34-FF	Expires: 4.4.12
Sulfate	True Value = 5.0 ppm	CAS ID # = ERA#0624-11-03	Expires: 1.1.12

CCV CAS ID # = AN11-92-W Expires 10.31.11

Fluoride	True Value = 5.0 ppm	10K CAS ID # = AN1-34-M	Expires: 4.25.12
Chloride	True Value = 5.0 ppm	10K CAS ID # = AN1-34-AA	Expires: 2.2.12
Nitrite	True Value = 2.5 ppm	10K CAS ID # = AN1-34-N	Expires: 4.25.12
Bromide	True Value = 2.5 ppm	10K CAS ID # = AN1-34-V	Expires: 12.14.11
Nitrate	True Value = 2.5 ppm	10K CAS ID # = AN1-34-GG	Expires: 4.14.12
Sulfate	True Value = 5.0 ppm	10K CAS ID # = AN1-34-BB	Expires: 2.2.12

Spike
2.0ppm X dilution factor CAS ID# = AN11-95-W Expires 10.31.11

Fluoride	10K CAS ID # = AN1-34-M	Expires: ccv
Chloride	10K CAS ID # = AN1-34-AA	Expires:
Nitrite	10K CAS ID # = AN1-34-N	Expires:
Bromide	10K CAS ID # = AN1-34-V	Expires:
Nitrate	10K CAS ID # = AN1-34-GG	Expires:
Sulfate	10K CAS ID # = AN1-34-BB	Expires:

Analyst: MB Date: 10.31.11
First Review: V Date: V
Final Review: BH Date: 11.1.11
t:\wet\ic\icdqs.xls

Analytical Results Summary

ıstrument Name: K-IC-07 **Analyst:** NBAKOTICH **Analysis Lot:** 267615 **Method/Testcode:** 9056/F

ɔ Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
110169-001	Fluoride	N/A		Soil	0.11 mg/L	2.5172 g	4.3 mg/Kg U	2		4.3			10/31/11 15:08:00	N	V
110169-002	Fluoride	N/A		Soil	0.17 mg/L	2.4776 g	4.4 mg/Kg U	2		4.4			10/31/11 15:23:00	N	V
110169-003	Fluoride	N/A		Soil	0.17 mg/L	2.4547 g	4.2 mg/Kg U	2		4.2			10/31/11 15:38:00	N	V
110169-004	Fluoride	N/A		Soil	0.22 mg/L	2.4762 g	4.4 mg/Kg U	2		4.4			10/31/11 16:53:00	N	V
110227-001	Fluoride	N/A		Soil	0.22 mg/L	2.5314 g	4.4 mg/Kg U	2		4.4			10/31/11 17:22:00	N	V
110363-001	Fluoride	N/A		Soil	0.12 mg/L	2.5476 g	4.4 mg/Kg U	2		4.4			10/31/11 17:37:00	N	V
110363-002	Fluoride	N/A		Soil	0.19 mg/L	2.4625 g	4.2 mg/Kg U	2		4.2			10/31/11 17:52:00	N	V
110467-001	Fluoride	N/A		Soil	0.12 mg/L	2.5461 g	4.0 mg/Kg # U	2		4.0			10/31/11 18:07:00	N	V
110524-001	Fluoride	N/A		Soil	0.98 mg/L	2.5002 g	9.8 mg/Kg #	2		4.0			10/31/11 18:22:00	N	V
110524-002	Fluoride	N/A		Soil	0.39 mg/L	2.4652 g	4.0 mg/Kg # U	2		4.0			10/31/11 18:37:00	N	V
)1111968-04	Fluoride	LCS		Soil	15.77 mg/L	2.5156 g	157 mg/Kg	10		20	97		10/31/11 13:53:00	N	II
)1111968-05	Fluoride	DLCS		Soil	15.94 mg/L	2.4818 g	161 mg/Kg	10		20	99	2	10/31/11 14:08:00	N	II
)1111968-06	Fluoride	MB		Soil	0.00 mg/L	25.0000 g	2.0 mg/Kg U	1		2.0			10/31/11 13:38:00	N	II
)1111977-01	Fluoride	CCV		Soil	5.27 mg/L	5 g	5.27 mg/L	1					10/31/11 09:10:00	N	V
)1111977-02	Fluoride	CCV		Soil	5.28 mg/L	5 g	5.28 mg/L	1					10/31/11 11:10:00	N	V
)1111977-03	Fluoride	CCV		Soil	5.17 mg/L	5 g	5.17 mg/L	1					10/31/11 16:08:00	N	V
)1111977-04	Fluoride	CCV		Soil	5.17 mg/L	5 g	5.17 mg/L	1					10/31/11 19:07:00	N	V
)1111977-05	Fluoride	CCV		Soil	5.16 mg/L	5 g	5.16 mg/L	1					10/31/11 20:22:00	N	V
)1111977-06	Fluoride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 09:25:00	N	V
)1111977-07	Fluoride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 11:25:00	N	V
)1111977-08	Fluoride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 16:23:00	N	V
)1111977-09	Fluoride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 19:22:00	N	V
)1111977-10	Fluoride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 20:37:00	N	V

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ıdicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

ıstrument Name: K-IC-03 **Analyst:** NBAKOTICH **Analysis Lot:** 267609 **Method/Testcode:** 9056A/SO4

ɔ Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
109976-001	Sulfate	N/A		Soil	53.91 mg/L	2.4886 g	3840 mg/Kg	10	40	140			10/31/11 14:23:00	N	II
110212-004	Bromide	N/A		Soil	5.50 mg/L	2.5350 g	54 mg/Kg	10		10			10/31/11 17:08:00	N	I
110212-004	Bromide	N/A		Soil	5.50 mg/L	2.5350 g	54 mg/Kg	10	1	10			10/31/11 17:08:00	N	I
110212-004	Chloride	N/A		Soil	29.12 mg/L	2.5350 g	287 mg/Kg	10		20			10/31/11 17:08:00	N	I
110212-004	Chloride	N/A		Soil	29.12 mg/L	2.5350 g	287 mg/Kg	10	5	20			10/31/11 17:08:00	N	I
110212-004	Sulfate	N/A		Soil	40.92 mg/L	2.5350 g	404 mg/Kg	10		20			10/31/11 17:08:00	N	I
110212-004	Sulfate	N/A		Soil	40.92 mg/L	2.5350 g	404 mg/Kg	10	5	20			10/31/11 17:08:00	N	I
)1111968-01	Sulfate	MS	K1109976-001	Soil	455.30 mg/L	2.5280 g	31900 mg/Kg	100	400	1400	100		10/31/11 14:38:00	N	II
)1111968-02	Sulfate	DMS	K1109976-001	Soil	457.99 mg/L	2.4817 g	32700 mg/Kg	100	400	1400	101	2	10/31/11 14:53:00	N	II
)1111968-03	Sulfate	DUP	K1109976-001	Soil	58.60 mg/L	2.4834 g	4180 mg/Kg	10	40	140		9	10/31/11 19:37:00	N	II
)1111968-04	Bromide	LCS		Soil	8.48 mg/L	2.5156 g	84.3 mg/Kg	10		10	104		10/31/11 13:53:00	N	II
)1111968-04	Bromide	LCS		Soil	8.48 mg/L	2.5156 g	84.3 mg/Kg	10	1	10	104		10/31/11 13:53:00	N	II
)1111968-04	Chloride	LCS		Soil	31.33 mg/L	2.5156 g	311 mg/Kg	10		20	100		10/31/11 13:53:00	N	II
)1111968-04	Chloride	LCS		Soil	31.33 mg/L	2.5156 g	311 mg/Kg	10	5	20	100		10/31/11 13:53:00	N	II
)1111968-04	Sulfate	LCS		Soil	36.41 mg/L	2.5156 g	362 mg/Kg	10		20	102		10/31/11 13:53:00	N	II
)1111968-04	Sulfate	LCS		Soil	36.41 mg/L	2.5156 g	362 mg/Kg	10	5	20	102		10/31/11 13:53:00	N	II
)1111968-05	Bromide	DLCS		Soil	8.26 mg/L	2.4818 g	83.2 mg/Kg	10		10	102	1	10/31/11 14:08:00	N	II
)1111968-05	Bromide	DLCS		Soil	8.26 mg/L	2.4818 g	83.2 mg/Kg	10	1	10	102	1	10/31/11 14:08:00	N	II
)1111968-05	Chloride	DLCS		Soil	30.66 mg/L	2.4818 g	309 mg/Kg	10		20	99	<1	10/31/11 14:08:00	N	II
)1111968-05	Chloride	DLCS		Soil	30.66 mg/L	2.4818 g	309 mg/Kg	10	5	20	99	<1	10/31/11 14:08:00	N	II
)1111968-05	Sulfate	DLCS		Soil	33.60 mg/L	2.4818 g	338 mg/Kg	10		20	96	7	10/31/11 14:08:00	N	II
)1111968-05	Sulfate	DLCS		Soil	33.60 mg/L	2.4818 g	338 mg/Kg	10	5	20	96	7	10/31/11 14:08:00	N	II
)1111968-06	Bromide	MB		Soil	0.00 mg/L	25.0000 g	1.0 mg/Kg U	1		1.0			10/31/11 13:38:00	N	II
)1111968-06	Bromide	MB		Soil	0.00 mg/L	25.0000 g	1.0 mg/Kg U	1	0.1	1.0			10/31/11 13:38:00	N	II
)1111968-06	Chloride	MB		Soil	0.00 mg/L	25.0000 g	2.0 mg/Kg U	1		2.0			10/31/11 13:38:00	N	II
)1111968-06	Chloride	MB		Soil	0.00 mg/L	25.0000 g	0.48 mg/Kg U	1	0.48	0.48			10/31/11 13:38:00	N	II
)1111968-06	Sulfate	MB		Soil	0.00 mg/L	25.0000 g	2.0 mg/Kg U	1		2.0			10/31/11 13:38:00	N	II
)1111968-06	Sulfate	MB		Soil	0.00 mg/L	25.0000 g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 13:38:00	N	II
)1111969-01	Bromide	CCV		Soil	2.52 mg/L	5 g	2.52 mg/L	1					10/31/11 09:10:00	N	I
)1111969-01	Bromide	CCV		Soil	2.52 mg/L	5 g	2.52 mg/L	1					10/31/11 09:10:00	N	I
)1111969-01	Chloride	CCV		Soil	4.96 mg/L	5 g	4.96 mg/L	1					10/31/11 09:10:00	N	I
)1111969-01	Chloride	CCV		Soil	4.96 mg/L	5 g	4.96 mg/L	1					10/31/11 09:10:00	N	I
)1111969-01	Sulfate	CCV		Soil	4.85 mg/L	5 g	4.85 mg/L	1					10/31/11 09:10:00	N	I
)1111969-01	Sulfate	CCV		Soil	4.85 mg/L	5 g	4.85 mg/L	1					10/31/11 09:10:00	N	I
)1111969-02	Bromide	CCV		Soil	2.51 mg/L	5 g	2.51 mg/L	1					10/31/11 11:10:00	N	I
)1111969-02	Bromide	CCV		Soil	2.51 mg/L	5 g	2.51 mg/L	1					10/31/11 11:10:00	N	I

ıdicates Final Result is not yet adjusted for Solids because it has not yet been determined.

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Analytical Results Summary

ıstrument Name: K-IC-03 **Analyst:** NBAKOTICH **Analysis Lot:** 267609 **Method/Testcode:** 300.0/Chloride

ɔ Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
)1111969-02	Chloride	CCV		Soil	4.92 mg/L	5 g	4.92 mg/L	1					10/31/11 11:10:00	N	I
)1111969-02	Chloride	CCV		Soil	4.92 mg/L	5 g	4.92 mg/L	1					10/31/11 11:10:00	N	I
)1111969-02	Sulfate	CCV		Soil	4.84 mg/L	5 g	4.84 mg/L	1					10/31/11 11:10:00	N	I
)1111969-02	Sulfate	CCV		Soil	4.84 mg/L	5 g	4.84 mg/L	1					10/31/11 11:10:00	N	I
)1111969-03	Bromide	CCV		Soil	2.46 mg/L	5 g	2.46 mg/L	1					10/31/11 16:08:00	N	I
)1111969-03	Bromide	CCV		Soil	2.46 mg/L	5 g	2.46 mg/L	1					10/31/11 16:08:00	N	I
)1111969-03	Chloride	CCV		Soil	4.83 mg/L	5 g	4.83 mg/L	1					10/31/11 16:08:00	N	I
)1111969-03	Chloride	CCV		Soil	4.83 mg/L	5 g	4.83 mg/L	1					10/31/11 16:08:00	N	I
)1111969-03	Sulfate	CCV		Soil	4.77 mg/L	5 g	4.77 mg/L	1					10/31/11 16:08:00	N	I
)1111969-03	Sulfate	CCV		Soil	4.77 mg/L	5 g	4.77 mg/L	1					10/31/11 16:08:00	N	I
)1111969-04	Bromide	CCV		Soil	2.46 mg/L	5 g	2.46 mg/L	1					10/31/11 19:07:00	N	I
)1111969-04	Bromide	CCV		Soil	2.46 mg/L	5 g	2.46 mg/L	1					10/31/11 19:07:00	N	I
)1111969-04	Chloride	CCV		Soil	4.80 mg/L	5 g	4.80 mg/L	1					10/31/11 19:07:00	N	I
)1111969-04	Chloride	CCV		Soil	4.80 mg/L	5 g	4.80 mg/L	1					10/31/11 19:07:00	N	I
)1111969-04	Sulfate	CCV		Soil	4.76 mg/L	5 g	4.76 mg/L	1					10/31/11 19:07:00	N	I
)1111969-04	Sulfate	CCV		Soil	4.76 mg/L	5 g	4.76 mg/L	1					10/31/11 19:07:00	N	I
)1111969-05	Bromide	CCV		Soil	2.45 mg/L	5 g	2.45 mg/L	1					10/31/11 20:22:00	N	I
)1111969-05	Bromide	CCV		Soil	2.45 mg/L	5 g	2.45 mg/L	1					10/31/11 20:22:00	N	I
)1111969-05	Chloride	CCV		Soil	4.77 mg/L	5 g	4.77 mg/L	1					10/31/11 20:22:00	N	I
)1111969-05	Chloride	CCV		Soil	4.77 mg/L	5 g	4.77 mg/L	1					10/31/11 20:22:00	N	I
)1111969-05	Sulfate	CCV		Soil	4.71 mg/L	5 g	4.71 mg/L	1					10/31/11 20:22:00	N	I
)1111969-05	Sulfate	CCV		Soil	4.71 mg/L	5 g	4.71 mg/L	1					10/31/11 20:22:00	N	I
)1111969-06	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1		1.0			10/31/11 09:25:00	N	I
)1111969-06	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1	0.1	1.0			10/31/11 09:25:00	N	I
)1111969-06	Chloride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 09:25:00	N	I
)1111969-06	Chloride	CCB		Soil	0.00 mg/L	2.5 g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 09:25:00	N	I
)1111969-06	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 09:25:00	N	I
)1111969-06	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 09:25:00	N	I
)1111969-07	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1		1.0			10/31/11 11:25:00	N	I
)1111969-07	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1	0.1	1.0			10/31/11 11:25:00	N	I
)1111969-07	Chloride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 11:25:00	N	I
)1111969-07	Chloride	CCB		Soil	0.00 mg/L	2.5 g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 11:25:00	N	I
)1111969-07	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 11:25:00	N	I
)1111969-07	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 11:25:00	N	I
)1111969-08	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1		1.0			10/31/11 16:23:00	N	I
)1111969-08	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1	0.1	1.0			10/31/11 16:23:00	N	I

ıdicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

nstrument Name: K-IC-03 **Analyst:** NBAKOTICH **Analysis Lot:** 267609 **Method/Testcode:** 300.0/Chloride

b Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
)1111969-08	Chloride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 16:23:00	N	I
)1111969-08	Chloride	CCB		Soil	0.00 mg/L	2.5 g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 16:23:00	N	I
)1111969-08	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 16:23:00	N	I
)1111969-08	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 16:23:00	N	I
)1111969-09	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1		1.0			10/31/11 19:22:00	N	I
)1111969-09	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1	0.1	1.0			10/31/11 19:22:00	N	I
)1111969-09	Chloride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 19:22:00	N	I
)1111969-09	Chloride	CCB		Soil	0.00 mg/L	2.5 g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 19:22:00	N	I
)1111969-09	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 19:22:00	N	I
)1111969-09	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 19:22:00	N	I
)1111969-10	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1		1.0			10/31/11 20:37:00	N	I
)1111969-10	Bromide	CCB		Soil	0.00 mg/L	g	1.0 mg/Kg U	1	0.1	1.0			10/31/11 20:37:00	N	I
)1111969-10	Chloride	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 20:37:00	N	I
)1111969-10	Chloride	CCB		Soil	0.00 mg/L	2.5 g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 20:37:00	N	I
)1111969-10	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1		2.0			10/31/11 20:37:00	N	I
)1111969-10	Sulfate	CCB		Soil	0.00 mg/L	g	2.0 mg/Kg U	1	0.5	2.0			10/31/11 20:37:00	N	I

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ıdicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 48
Created: 10/31/2011 9:07:12 AM by ACQWET10
Last Update: 10/31/2011 6:46:35 PM by ACQWET10

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time
1	std2/lvl2	epa300	Standard	2	200.0	epa300(22)	Finished	9/2/2011 11:48:25 AM
2	std3/lvl3	epa300	Standard	1	200.0	epa300(22)	Finished	9/2/2011 12:10:53 PM
3	std4/lvl4	epa300	Standard	2	200.0	epa300(22)	Finished	9/2/2011 12:33:20 PM
4	std5/lvl5	epa300	Standard	3	200.0	epa300(22)	Finished	9/2/2011 12:55:48 PM
5	std6/lvl6	epa300	Standard	4	200.0	epa300(22)	Finished	9/2/2011 1:13:15 PM
6	std7/lvl7	epa300	Standard	5	200.0	epa300(22)	Finished	9/2/2011 1:30:43 PM
7	std8/lvl8	epa300	Standard	6	200.0	epa300(22)	Finished	9/2/2011 1:48:11 PM
8	std1/lvl1	epa300	Standard	7	200.0	epa300(22)	Finished	9/2/2011 2:05:38 PM
9	CCV1 AN11-92-W	epa300	Unknown	26	200.0	epa300(22)	Finished	10/31/2011 9:10:51 AM
10	CCB1	epa300	Unknown	27	200.0	epa300(22)	Finished	10/31/2011 9:25:50 AM
11	NO2 AN11-41-J	epa300	Unknown	28	200.0	epa300(22)	Finished	10/31/2011 9:40:47 AM
12	MB	epa300	Unknown	29	200.0	epa300(22)	Finished	10/31/2011 9:55:46 AM
13	NO3	epa300	Unknown	30	200.0	epa300(22)	Finished	10/31/2011 10:10:44 AM
14	CLSO4	epa300	Unknown	33	200.0	epa300(22)	Finished	10/31/2011 10:25:41 AM
15	FBR	epa300	Unknown	32	200.0	epa300(22)	Finished	10/31/2011 10:40:39 AM
16	SPKCHK AN11-95-W	epa300	Unknown	32	200.0	epa300(22)	Finished	10/31/2011 10:55:36 AM
17	CCV2	epa300	Unknown	34	200.0	epa300(22)	Finished	10/31/2011 11:10:34 AM
18	CCB2	epa300	Unknown	35	200.0	epa300(22)	Finished	10/31/2011 11:25:33 AM
19	MBEXT	epa300	Unknown	36	200.0	epa300(22)	Finished	10/31/2011 1:38:33 PM
20	LCS	epa300	Unknown	37	200.0	epa300(22)	Finished	10/31/2011 1:53:32 PM
21	DLCS	epa300	Unknown	38	200.0	epa300(22)	Finished	10/31/2011 2:08:29 PM
22	K1109976-001	epa300	Unknown	39	200.0	epa300(22)	Finished	10/31/2011 2:23:27 PM
23	9976-1MS	epa300	Unknown	40	200.0	epa300(22)	Finished	10/31/2011 2:38:24 PM
24	9976-1MSD	epa300	Unknown	41	200.0	epa300(22)	Finished	10/31/2011 2:53:23 PM
25	K1110169-001	epa300	Unknown	42	200.0	epa300(22)	Finished	10/31/2011 3:08:21 PM
26	K1110169-002	epa300	Unknown	43	200.0	epa300(22)	Finished	10/31/2011 3:23:18 PM
27	K1110169-003	epa300	Unknown	44	200.0	epa300(22)	Finished	10/31/2011 3:38:16 PM
28	RB	epa300	Unknown	45	200.0	epa300(22)	Finished	10/31/2011 3:53:14 PM
29	CCV3	epa300	Unknown	46	200.0	epa300(22)	Finished	10/31/2011 4:08:11 PM
30	CCB3	epa300	Unknown	47	200.0	epa300(22)	Finished	10/31/2011 4:23:09 PM
31	F LCS MRL	epa300	Unknown	48	200.0	epa300(22)	Finished	10/31/2011 4:38:06 PM
32	K1110169-004	epa300	Unknown	49	200.0	epa300(22)	Finished	10/31/2011 4:53:04 PM
33	K1110212-004	epa300	Unknown	50	200.0	epa300(22)	Finished	10/31/2011 5:08:02 PM
34	K1110227-001	epa300	Unknown	51	200.0	epa300(22)	Finished	10/31/2011 5:22:59 PM
35	K1110363-001	epa300	Unknown	52	200.0	epa300(22)	Finished	10/31/2011 5:37:57 PM
36	K1110363-002	epa300	Unknown	53	200.0	epa300(22)	Finished	10/31/2011 5:52:54 PM
37	K1110467-001	epa300	Unknown	54	200.0	epa300(22)	Finished	10/31/2011 6:07:51 PM
38	K1110524-001	epa300	Unknown	55	200.0	epa300(22)	Finished	10/31/2011 6:22:49 PM
39	K1110524-002	epa300	Unknown	56	200.0	epa300(22)	Finished	10/31/2011 6:37:46 PM
40	RB	epa300	Unknown	57	200.0	epa300(22)	Finished	10/31/2011 6:52:44 PM
41	CCV4	epa300	Unknown	58	200.0	epa300(22)	Finished	10/31/2011 7:07:42 PM
42	CCB4	epa300	Unknown	59	200.0	epa300(22)	Finished	10/31/2011 7:22:42 PM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 48
Created: 10/31/2011 9:07:12 AM by ACQWET10
Last Update: 10/31/2011 6:46:35 PM by ACQWET10

No.	Name	Dil. Factor	Comment
1	std2/lvl2	1.0000	
2	std3/lvl3	1.0000	
3	std4/lvl4	1.0000	
4	std5/lvl5	1.0000	
5	std6/lvl6	1.0000	
6	std7/lvl7	1.0000	
7	std8/lvl8	1.0000	
8	std1/lvl1	1.0000	
9	CCV1 AN11-92-W	1.0000	CCV1
10	CCB1	1.0000	CCB1
11	NO2 AN11-41-J	25.0000	
12	MB	1.0000	
13	NO3	5.0000	
14	CLSO4	1.0000	
15	FBR	5.0000	
16	SPKCHK AN11-95-W	1.0000	
17	CCV2	1.0000	CCV2
18	CCB2	1.0000	CCB2
19	MBEXT	1.0000	EXT
20	LCS	10.0000	EXT
21	DLCS	10.0000	EXT
22	K1109976-001	10.0000	EXT
23	9976-1MS	100.0000	MSEXT
24	9976-1MSD	100.0000	MSDEXT
25	K1110169-001	2.0000	EXT
26	K1110169-002	2.0000	EXT
27	K1110169-003	2.0000	EXT
28	RB	1.0000	
29	CCV3	1.0000	CCV3
30	CCB3	1.0000	CCB3
31	F LCS MRL	1.0000	
32	K1110169-004	2.0000	EXT F
33	K1110212-004	10.0000	EXT F
34	K1110227-001	2.0000	EXT F
35	K1110363-001	2.0000	EXT F
36	K1110363-002	2.0000	EXT F
37	K1110467-001	2.0000	EXT F
38	K1110524-001	2.0000	EXT F
39	K1110524-002	2.0000	EXT F
40	RB	1.0000	
41	CCV4	1.0000	CCV4
42	CCB4	1.0000	CCB4

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 48
Created: 10/31/2011 9:07:12 AM by ACQWET10
Last Update: 10/31/2011 6:46:35 PM by ACQWET10

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time
43	9976-1D	epa300	Unknown	60	200.0	epa300(22)	Finished	10/31/2011 7:37:39 PM
44	K1110212-004	epa300	Unknown	61	200.0	epa300(22)	Finished	10/31/2011 7:52:37 PM
45	RB	epa300	Unknown	61	200.0	epa300(22)	Finished	10/31/2011 8:07:35 PM
46	CCV5	epa300	Unknown	62	200.0	epa300(22)	Finished	10/31/2011 8:22:32 PM
47	CCB5	epa300	Unknown	63	200.0	epa300(22)	Finished	10/31/2011 8:37:29 PM
48	STOP	epa300	Unknown	64	200.0	shutdown 120	Finished	10/31/2011 8:52:27 PM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 48
Created: 10/31/2011 9:07:12 AM by ACQWET10
Last Update: 10/31/2011 6:46:35 PM by ACQWET10

No.	Name	Dil. Factor	Comment
43	9976-1D	10.0000	EXT F
44	K1110212-004	2.0000	EXT F
45	RB	1.0000	
46	CCV5	1.0000	CCV5
47	CCB5	1.0000	CCB5
48	STOP	1.0000	

141031

Work Order #.: _____ Method: _____

Analysis: _____

267609

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L (in solution)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
	MB	5					
	LCS	2.5156					
	LCSD	2.4818					
	9976-1	2.4888					
	-1d	2.4834					
	-1s	2.5280					
	-1sd	2.4817					
	10169-1	2.5172					
	-2	2.4776					
	-3	2.4547					
	-4	2.4762					
	10212-4	2.5350					
	10227-1	2.5314					
	10363-1	2.5176					
	-2	2.4625					
	10467-1	2.5461					
	10524-1	2.5002					
	-2	2.4652					

10212-4 P.E. sample

Br
Cl
F
SO4

MS=

MSD=

X=

RPD=

STD ID # =

Comments:

Prepared By:	[illegible]	Date Prepared:	10.31.11 1430
Analyzed By:	BH	Date Analyzed:	10.31.11
Reviewed By:	BH	Date Reviewed:	11.1.11

Client: Richland, City of
Project: City of Richland WWTP
Sample Matrix: Soil

Service Request: K1109976

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
COR Compost Facility Row 10-12	K1109976-001	10/12/2011	10/14/2011	10/24/2011	14.1	

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110169

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
CZBS0079S005 Soil	K1110169-001	10/18/2011	10/20/2011	10/27/2011	93.1	
CZBS0064S005 Soil	K1110169-002	10/20/2011	10/22/2011	10/27/2011	91.2	
CZBS0019S005 Soil	K1110169-003	10/20/2011	10/22/2011	10/27/2011	95.9	
CZBS0040S035 Soil	K1110169-004	10/20/2011	10/22/2011	10/27/2011	91.3	

Analytical Results

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227

Total Solids

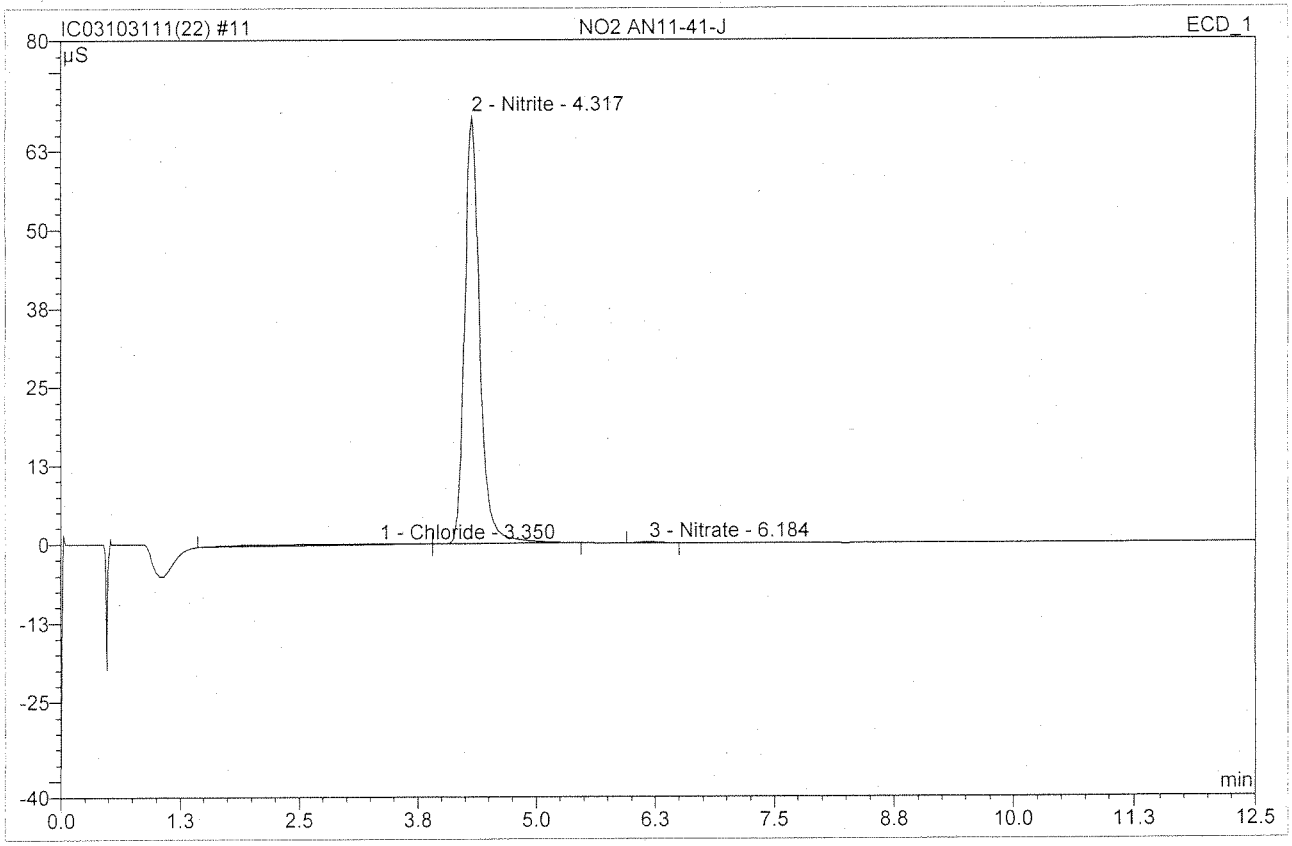
Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
CZBS0054S005 Soil	K1110227-001	10/19/2011	10/21/2011	10/28/2011	91.3	

11 NO2 AN11-41-J

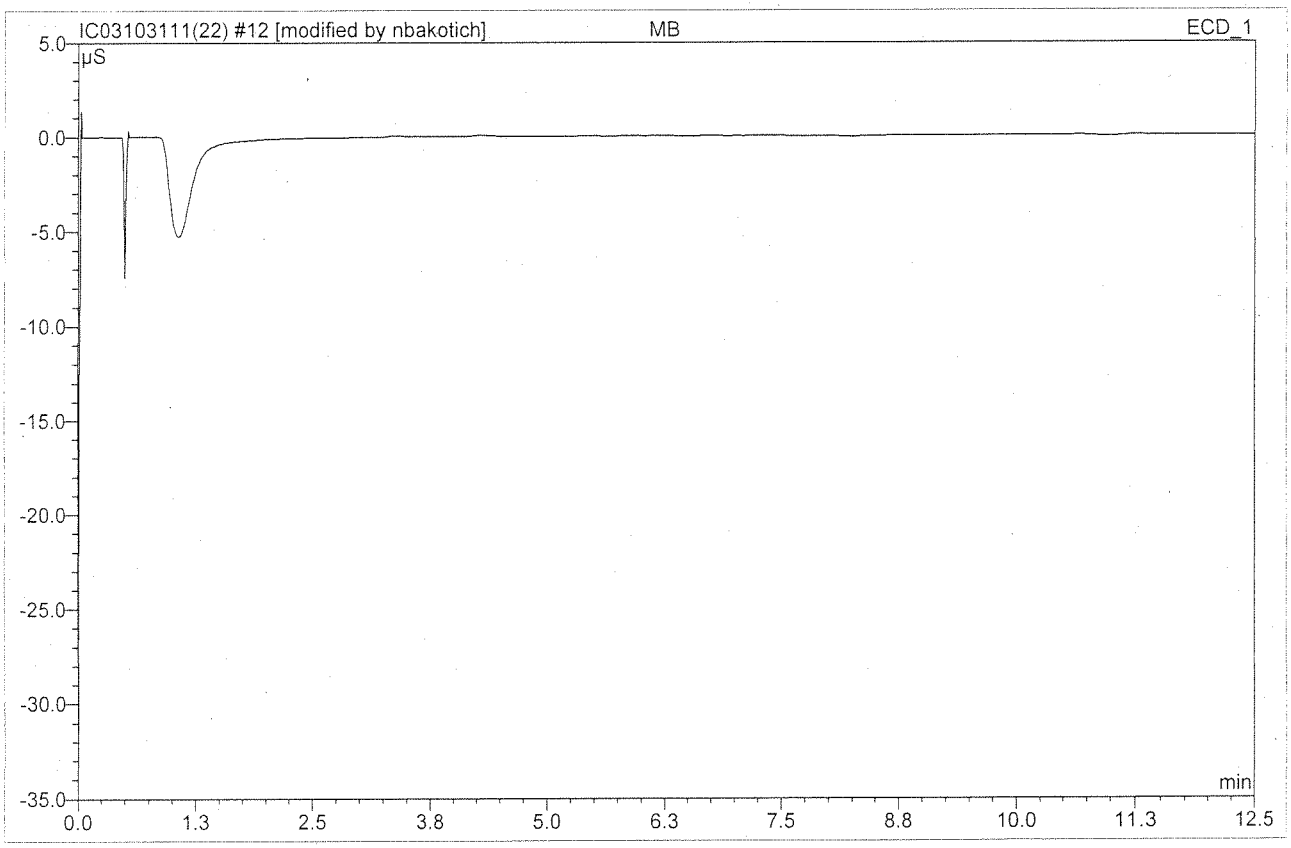
Sample Name:	**NO2 AN11-41-J**	*Injection Volume:*	**200.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**25.0000**
Recording Time:	**10/31/2011 9:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.35	Chloride	0.142	0.387	2.99	6.085	BMB
2	4.32	Nitrite	68.025	12.524	96.69	105.678	bMB
3	6.18	Nitrate	0.200	0.042	0.32	0.264	BMB
Total:			68.367	12.953	100.00	112.027	

12 MB

Sample Name:	**MB**	*Injection Volume:*	**200.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 9:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

After Initials _____

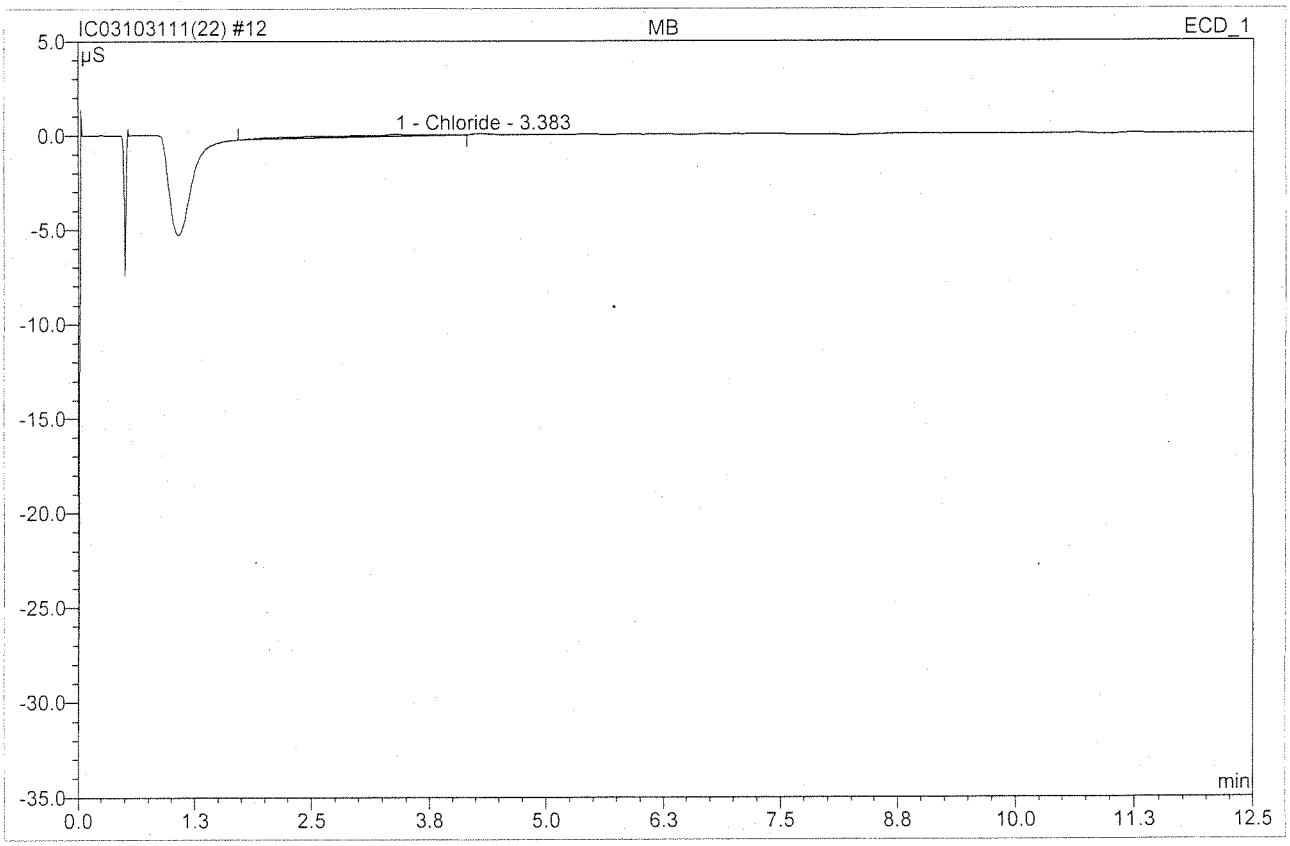
OCT 3 1 2011

☐ Wrong Peak/Peak not Found
☑ Baseline/shoulder Incorrect
☐ Other _____

SH 11/1/11

12 MB

Sample Name:	**MB**	*Injection Volume:*	**200.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 9:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



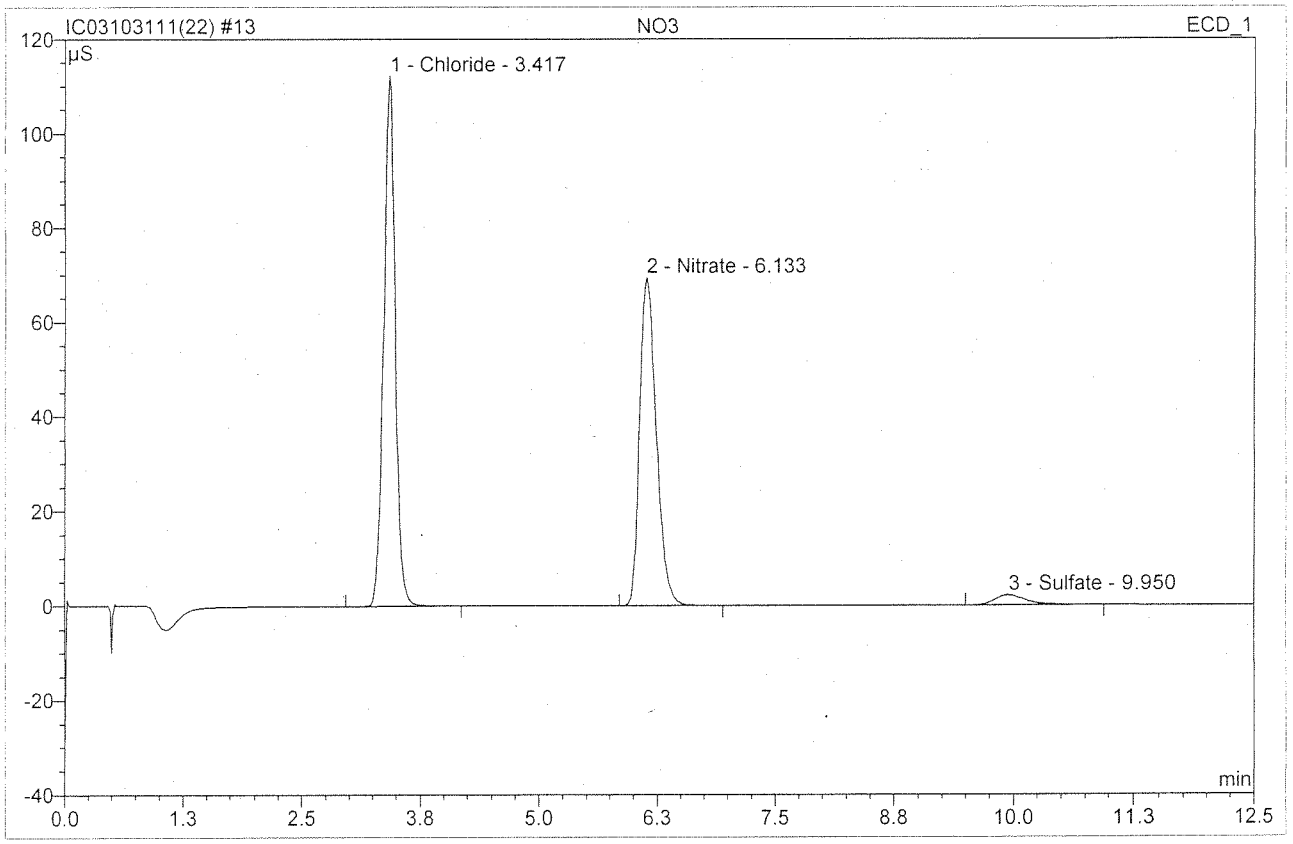
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.38	Chloride	0.121	0.156	100.00	0.098	BMB
Total:			0.121	0.156	100.00	0.098	

Before

OCT 3 1 2011

13 NO3

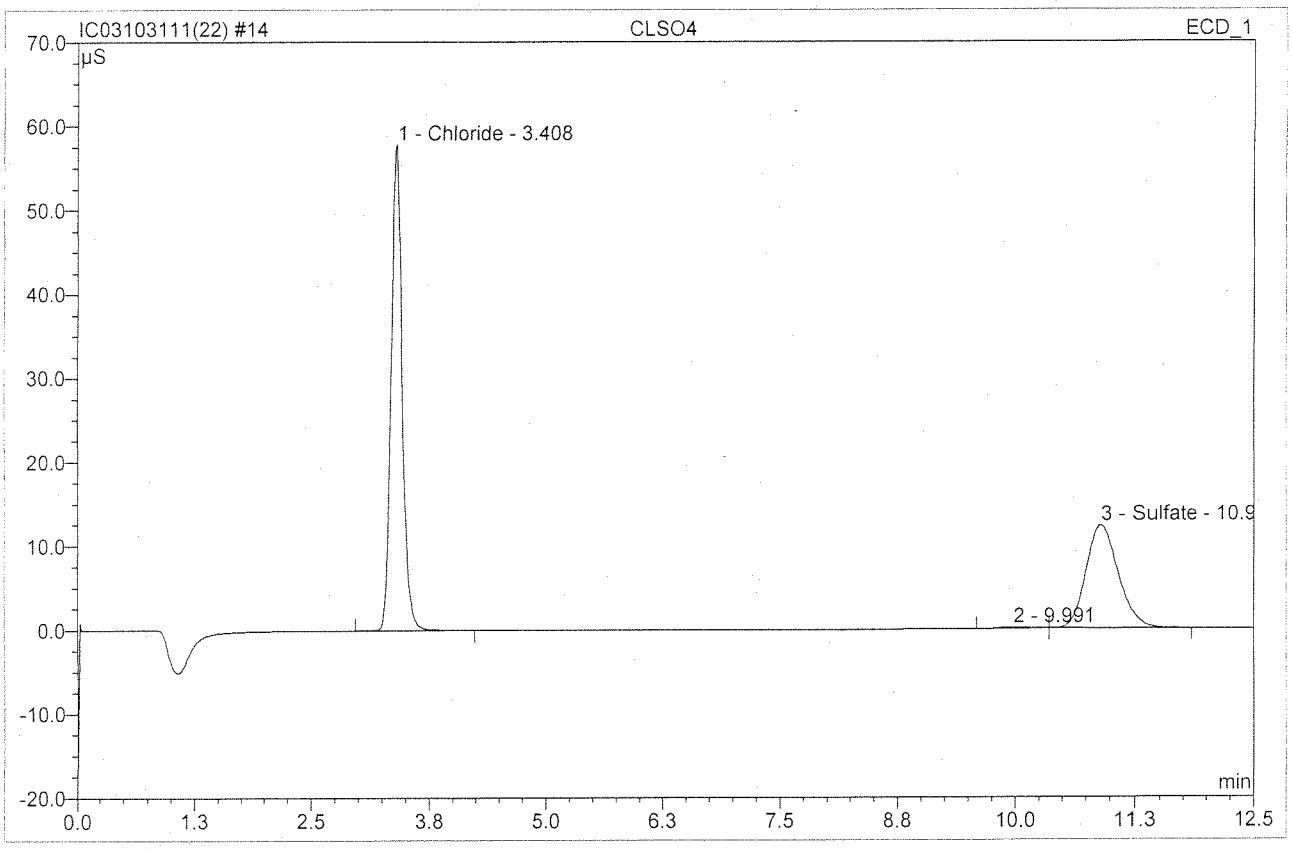
Sample Name:	**NO3**	*Injection Volume:*	**200.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/31/2011 10:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.42	Chloride	112.097	15.846	51.12	49.809	BMB
2	6.13	Nitrate	69.439	14.318	46.19	18.198	BMB
3	9.95	Sulfate	2.120	0.831	2.68	4.166	BMB
Total:			183.656	30.995	100.00	72.173	

14 CLSO4

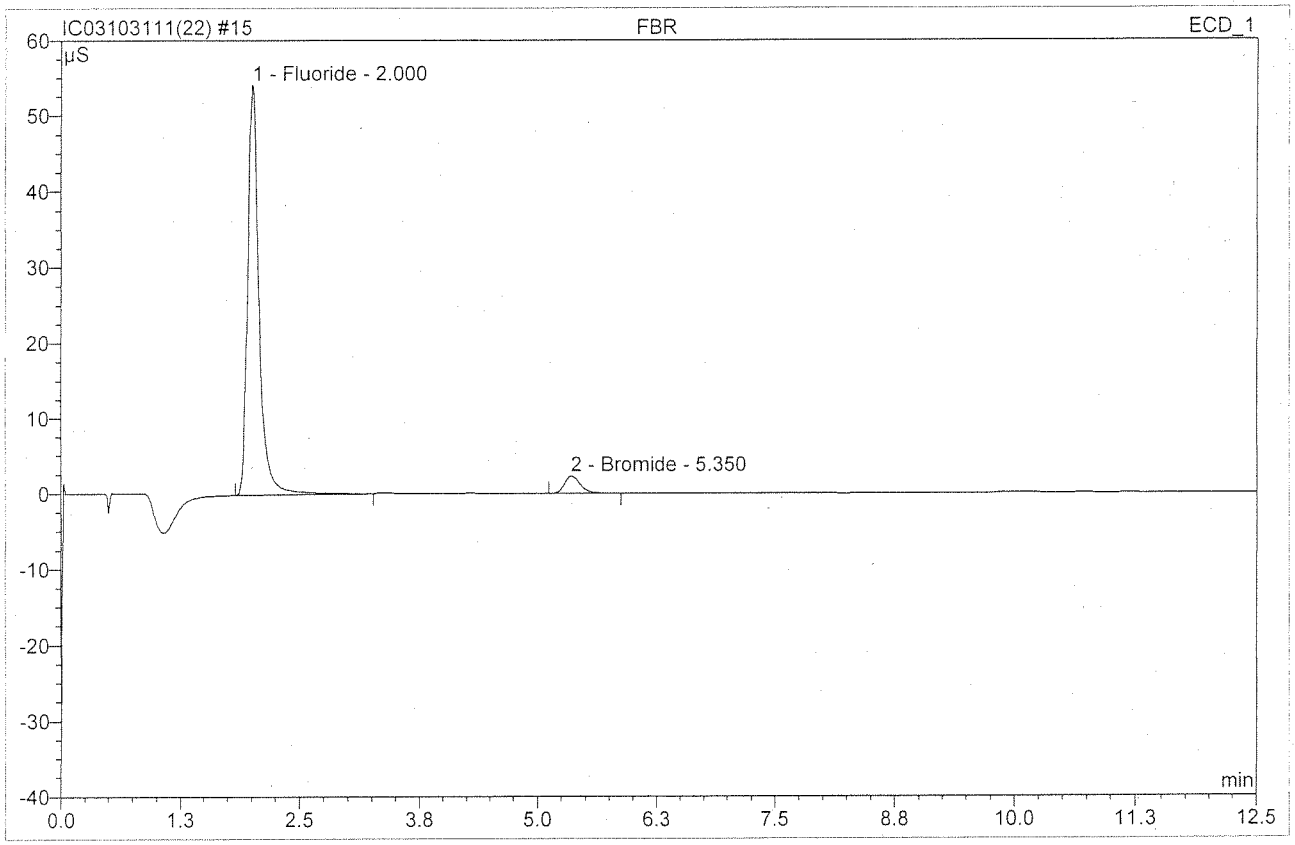
Sample Name:	**CLSO4**	*Injection Volume:*	**200.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 10:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.41	Chloride	57.847	7.878	61.96	4.953	BMB
2	9.99	n.a.	0.159	0.055	0.43	n.a.	BMb
3	10.91	Sulfate	12.309	4.783	37.61	4.795	bMB
Total:			70.315	12.716	100.00	9.748	

15 FBR

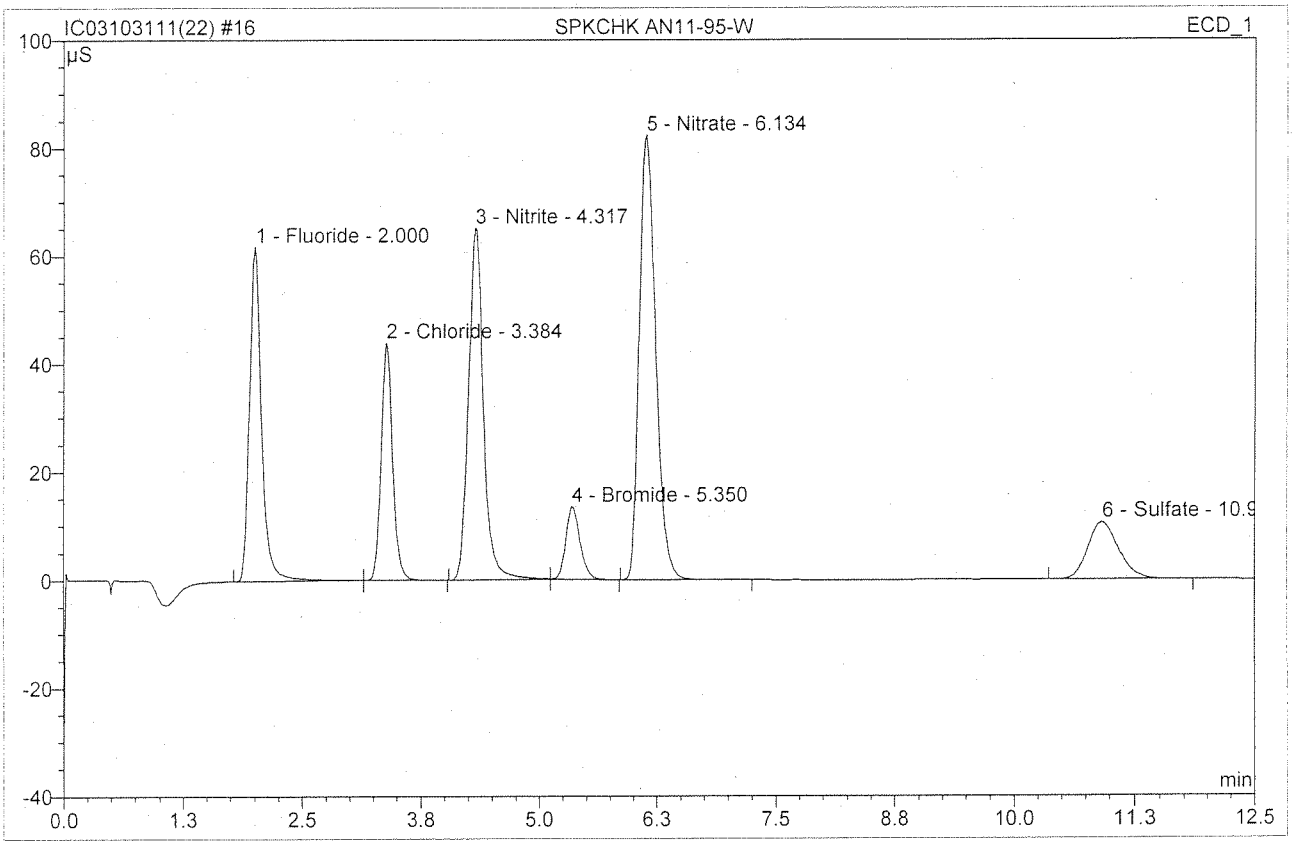
Sample Name:	**FBR**	*Injection Volume:*	**200.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/31/2011 10:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.00	Fluoride	54.242	7.585	94.61	17.986	BMB
2	5.35	Bromide	2.285	0.432	5.39	3.878	BMB
Total:			56.527	8.017	100.00	21.865	

16 SPKCHK AN11-95-W

Sample Name:	**SPKCHK AN11-95-W**	*Injection Volume:*	**200.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 10:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

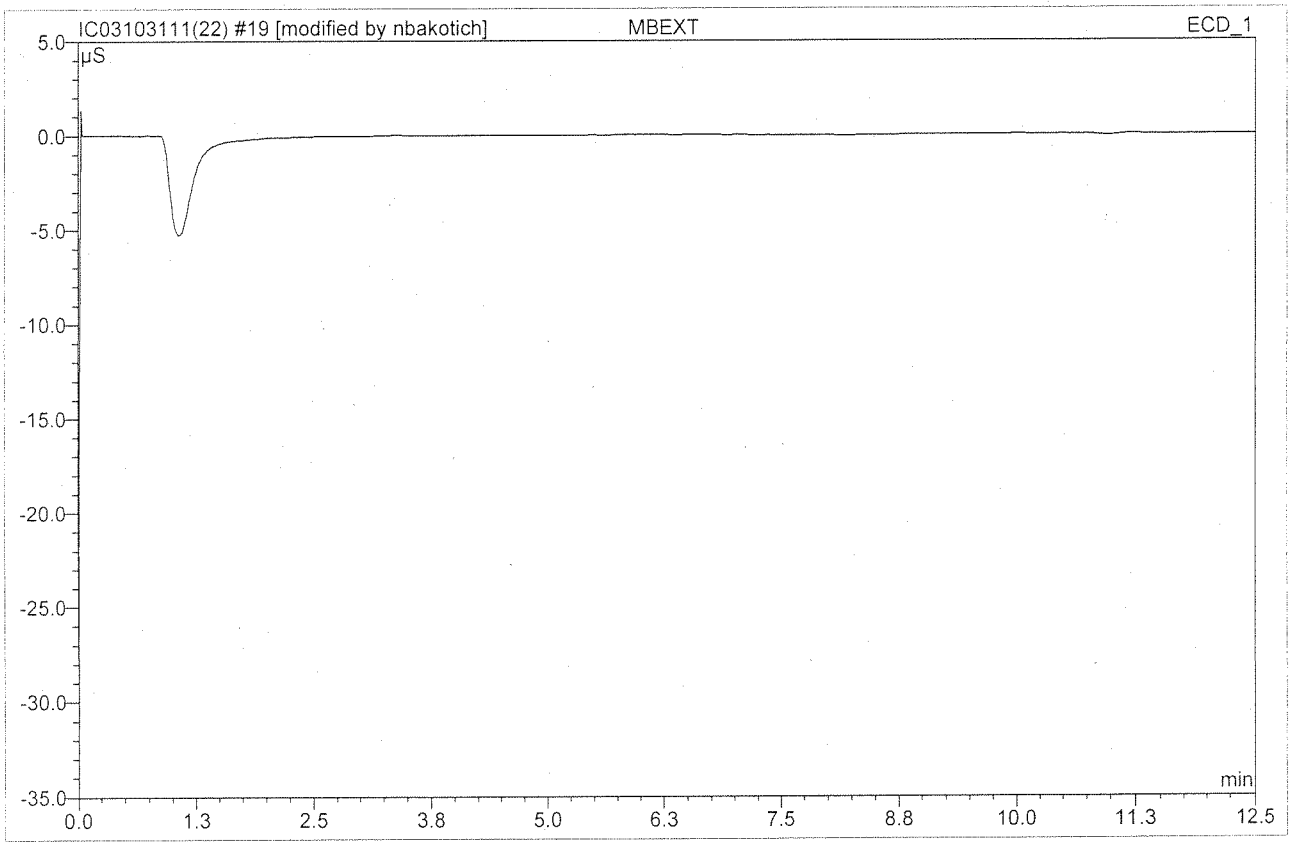


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.00	Fluoride	61.925	9.091	18.08	4.311	BMb
2	3.38	Chloride	43.848	6.172	12.28	3.880	bMB
3	4.32	Nitrite	65.139	11.978	23.82	4.043	BMb
4	5.35	Bromide	13.423	2.368	4.71	4.252	bMB
5	6.13	Nitrate	82.241	16.781	33.38	4.266	BMB
6	10.93	Sulfate	10.536	3.889	7.73	3.899	BMB
Total:			277.112	50.278	100.00	24.651	

19 MBEXT

EXT

Sample Name:	**MBEXT**	*Injection Volume:*	**200.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 13:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.52**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

After Initials _____

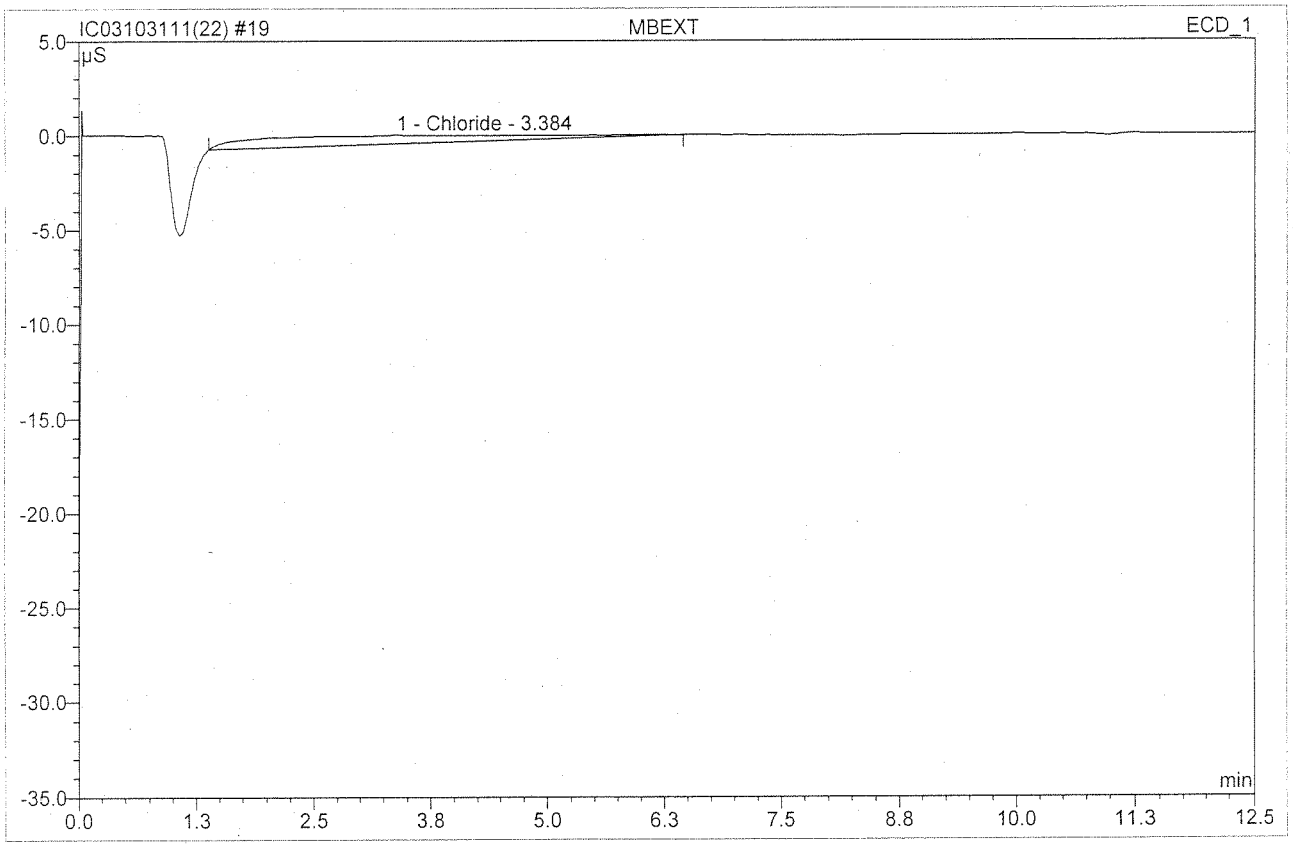
OCT 3 1 2011

☐ Wrong Peak/Peak not Found
☑ Baseline/shoulder incorrect
☐ Other _____

19 MBEXT

EXT

Sample Name:	**MBEXT**	*Injection Volume:*	**200.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 13:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.52**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.38	Chloride	0.455	1.558	100.00	0.979	BMB
Total:			0.455	1.558	100.00	0.979	

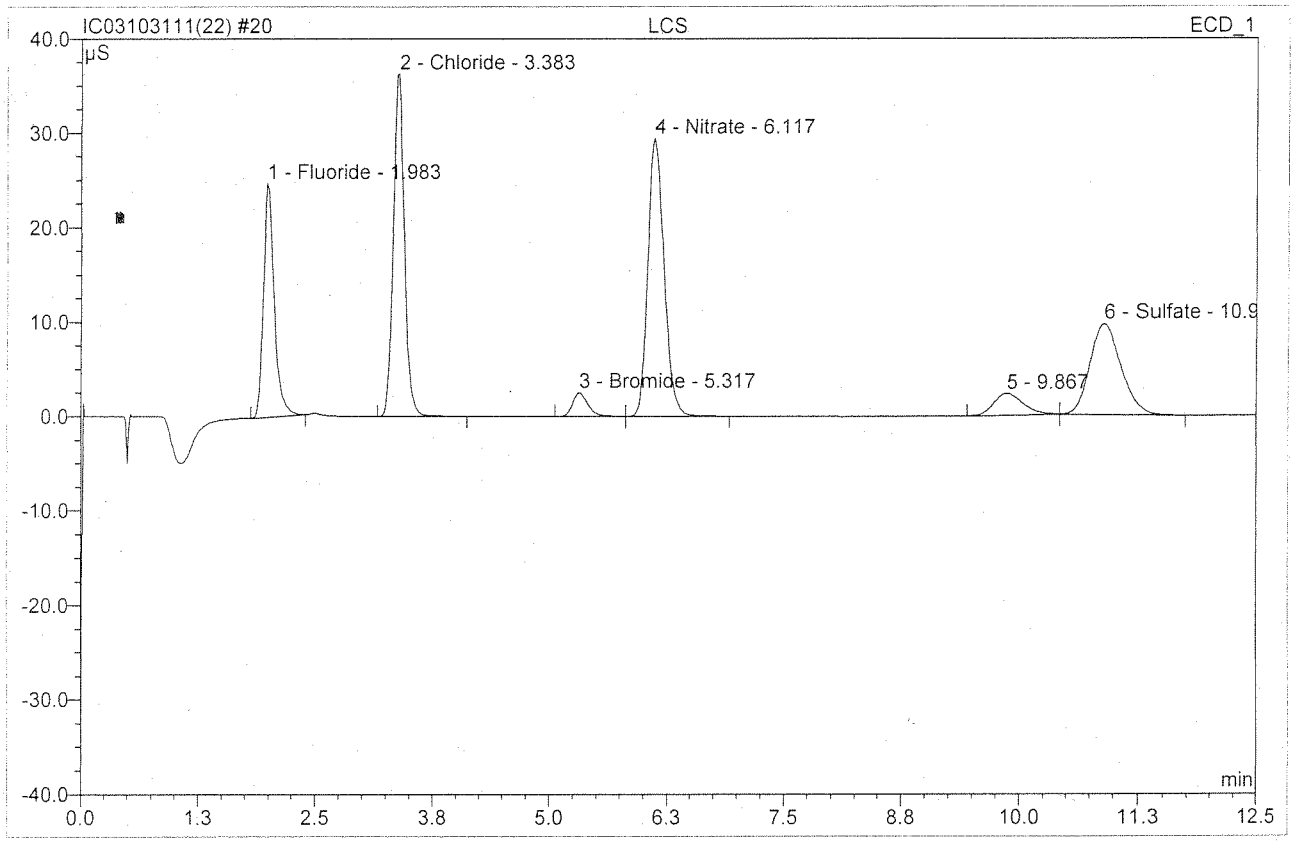
Before

OCT 31 2011

20 LCS

EXT

Sample Name:	**LCS**	*Injection Volume:*	**200.0**
Vial Number:	**37**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/31/2011 13:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

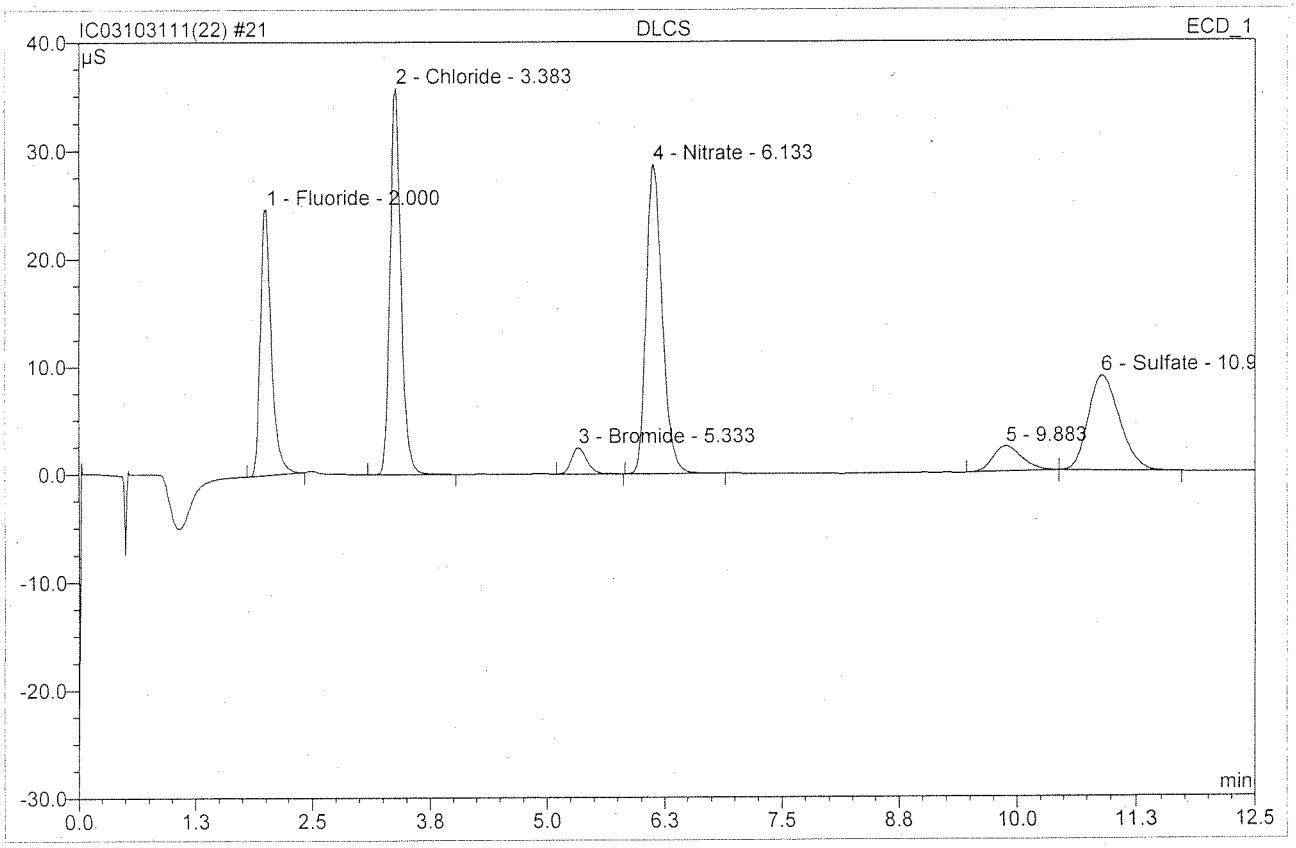


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.98	Fluoride	24.678	3.326	17.36	15.775	BMB
2	3.38	Chloride	36.282	4.984	26.01	31.334	BMB
3	5.32	Bromide	2.509	0.472	2.46	8.478	BMb
4	6.12	Nitrate	29.400	5.917	30.87	15.040	bMB
5	9.87	n.a.	2.306	0.834	4.35	n.a.	BMb
6	10.90	Sulfate	9.596	3.631	18.95	36.405	bMB
Total:			104.773	19.165	100.00	107.032	

21 DLCS

EXT

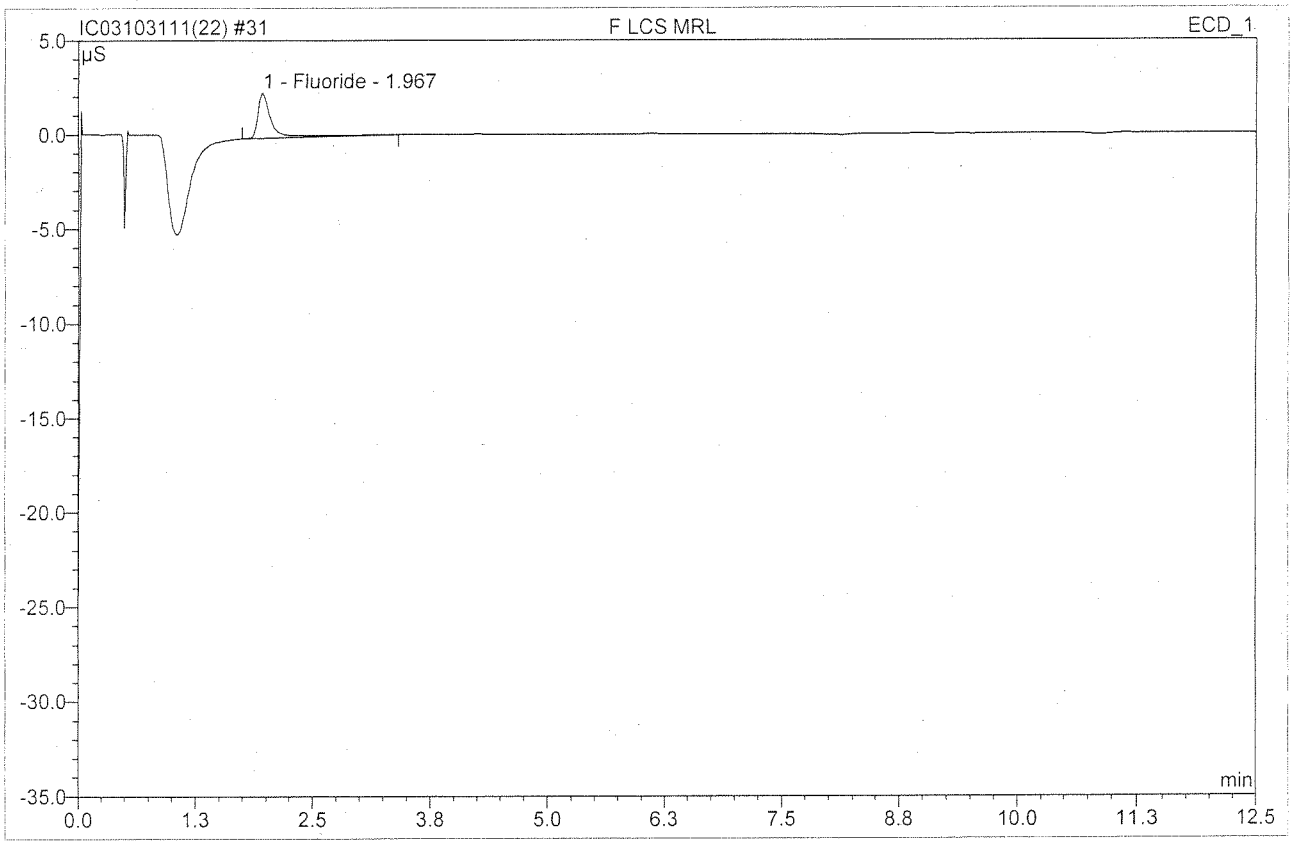
Sample Name:	**DLCS**	*Injection Volume:*	**200.0**
Vial Number:	**38**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/31/2011 14:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.00	Fluoride	24.685	3.361	18.00	15.937	BMB
2	3.38	Chloride	35.779	4.877	26.12	30.658	BMB
3	5.33	Bromide	2.454	0.460	2.46	8.264	BMB
4	6.13	Nitrate	28.743	5.779	30.95	14.689	BMB
5	9.88	n.a.	2.349	0.846	4.53	n.a.	BMb
6	10.90	Sulfate	8.843	3.351	17.94	33.595	bMB
Total:			102.851	18.672	100.00	103.143	

31 F LCS MRL

Sample Name:	**F LCS MRL**	*Injection Volume:*	**200.0**
Vial Number:	**48**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 16:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.97	Fluoride	2.411	0.415	100.00	0.197	BMB
Total:			2.411	0.415	100.00	0.197	

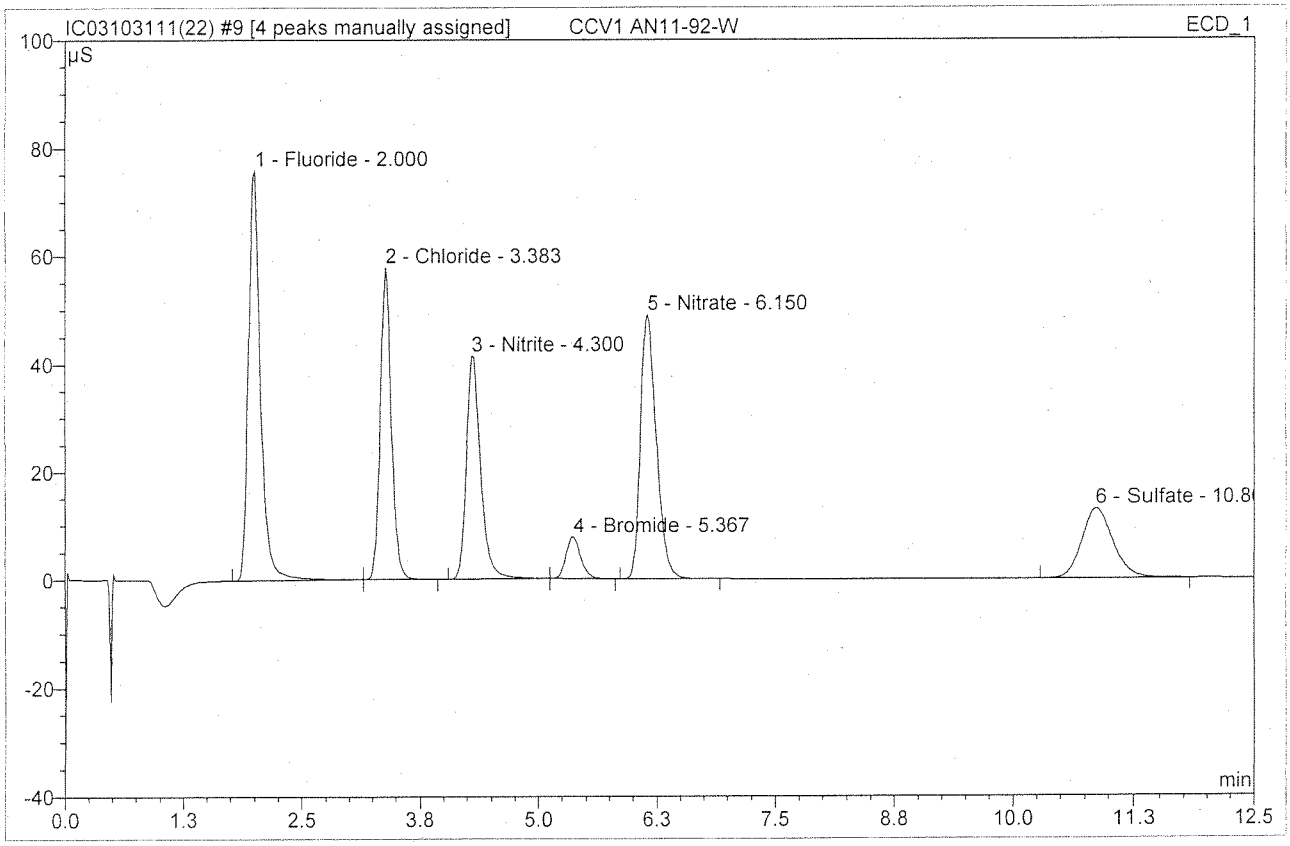
T.V. = 0.20 mg/L

%Rec = 99

9 CCV1 AN11-92-W

CCV1

Sample Name:	**CCV1 AN11-92-W**	*Injection Volume:*	**200.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 9:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

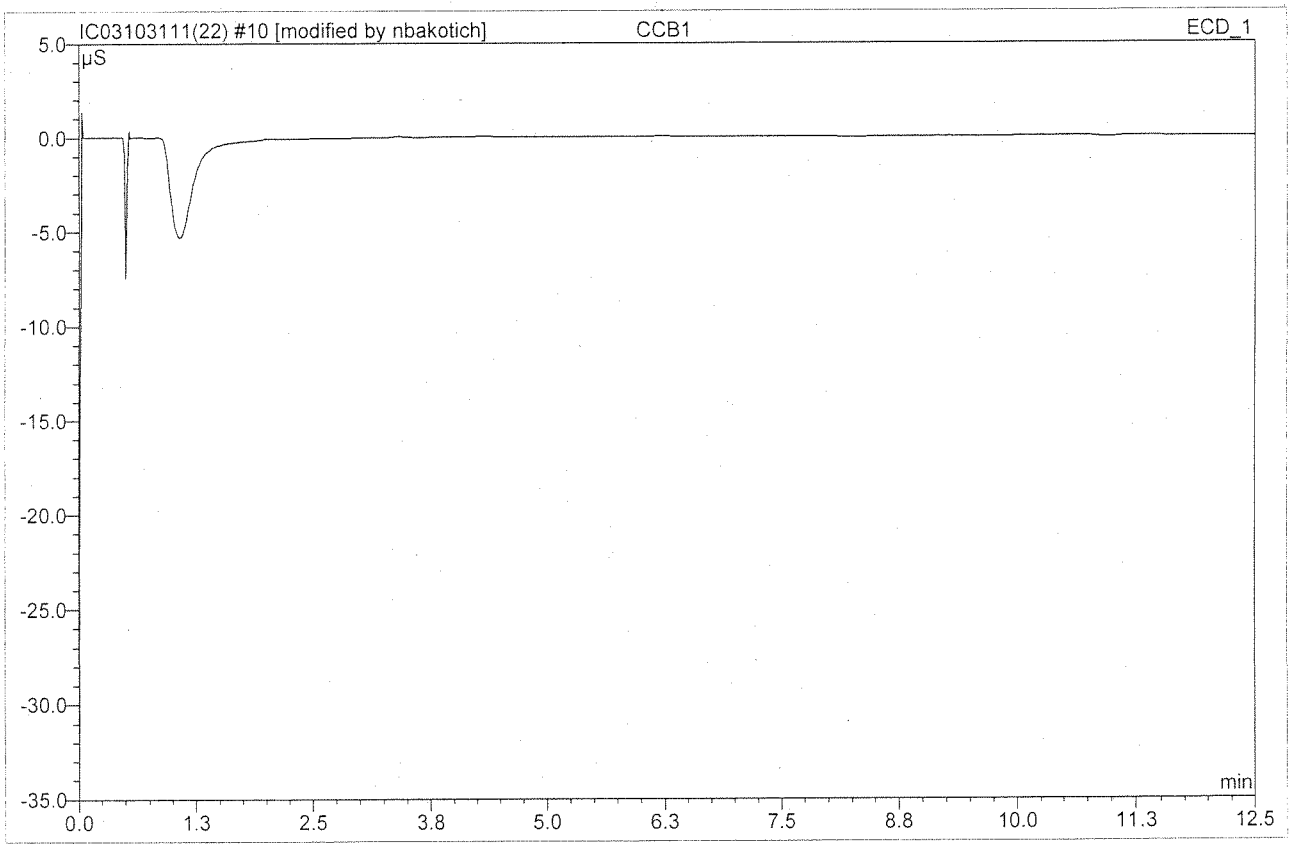


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.00	Fluoride	76.054	11.113	26.29	105 5.270	BMb
2	3.38	Chloride	57.695	7.893	18.67	99 4.962	bMB^
3	4.30	Nitrite	41.501	7.271	17.20	98 2.454	BMb^
4	5.37	Bromide	7.785	1.403	3.32	101 2.519	bMB^
5	6.15	Nitrate	49.006	9.749	23.06	99 2.478	BMB
6	10.87	Sulfate	13.013	4.840	11.45	97 4.852	BMB^
Total:			245.053	42.268	100.00	22.536	

10 CCB1

CCB1

Sample Name:	**CCB1**	*Injection Volume:*	**200.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 9:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

After Initials _____

OCT 3 1 2011

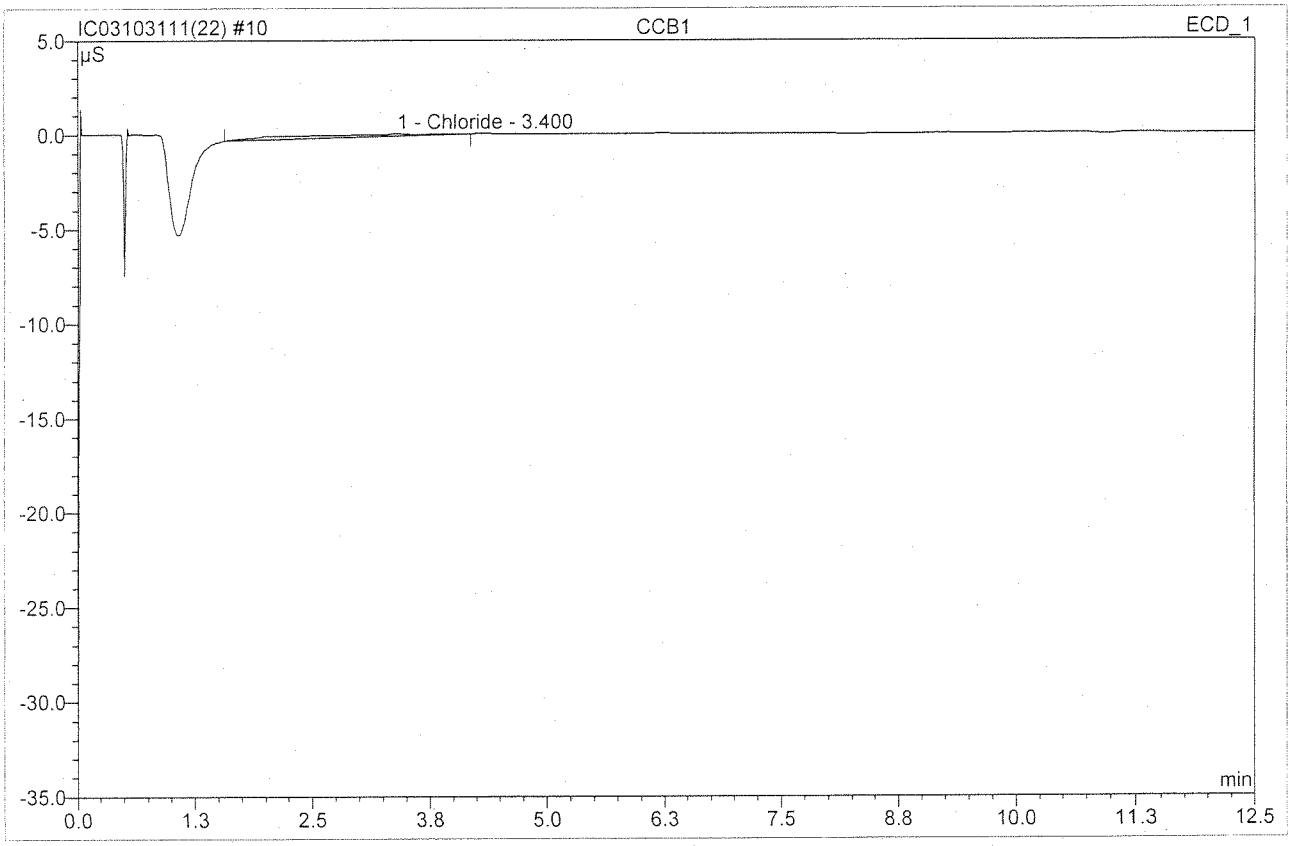
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder Incorrect
☐ Other _____

6H 11.1.11

10 CCB1

CCB1

Sample Name:	**CCB1**	*Injection Volume:*	**200.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 9:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.40	Chloride	0.132	0.253	100.00	0.159	BMB
Total:			0.132	0.253	100.00	0.159	

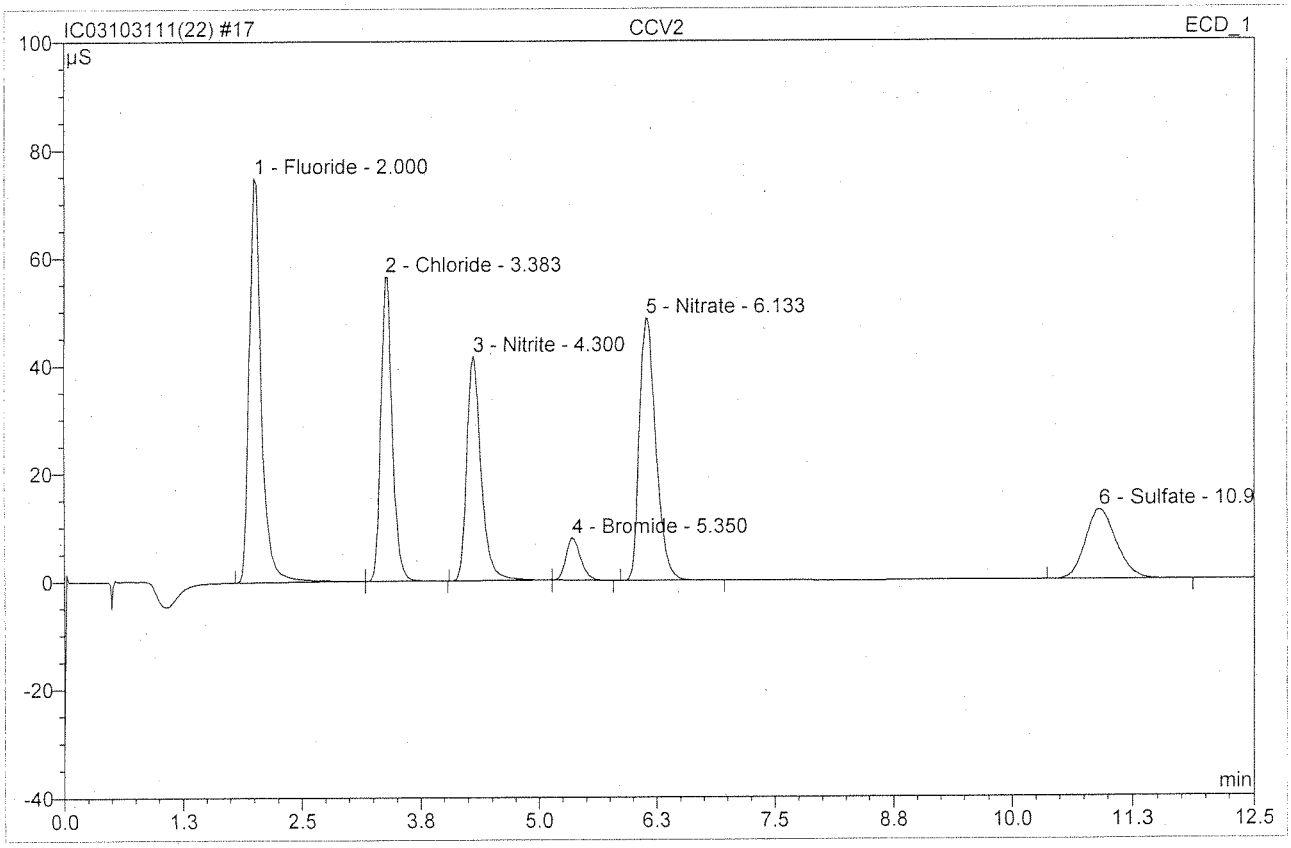
Before

OCT 3 1 2011

17 CCV2

CCV2

Sample Name:	**CCV2**	*Injection Volume:*	**200.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 11:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.52**	*Sample Amount:*	**1.0000**

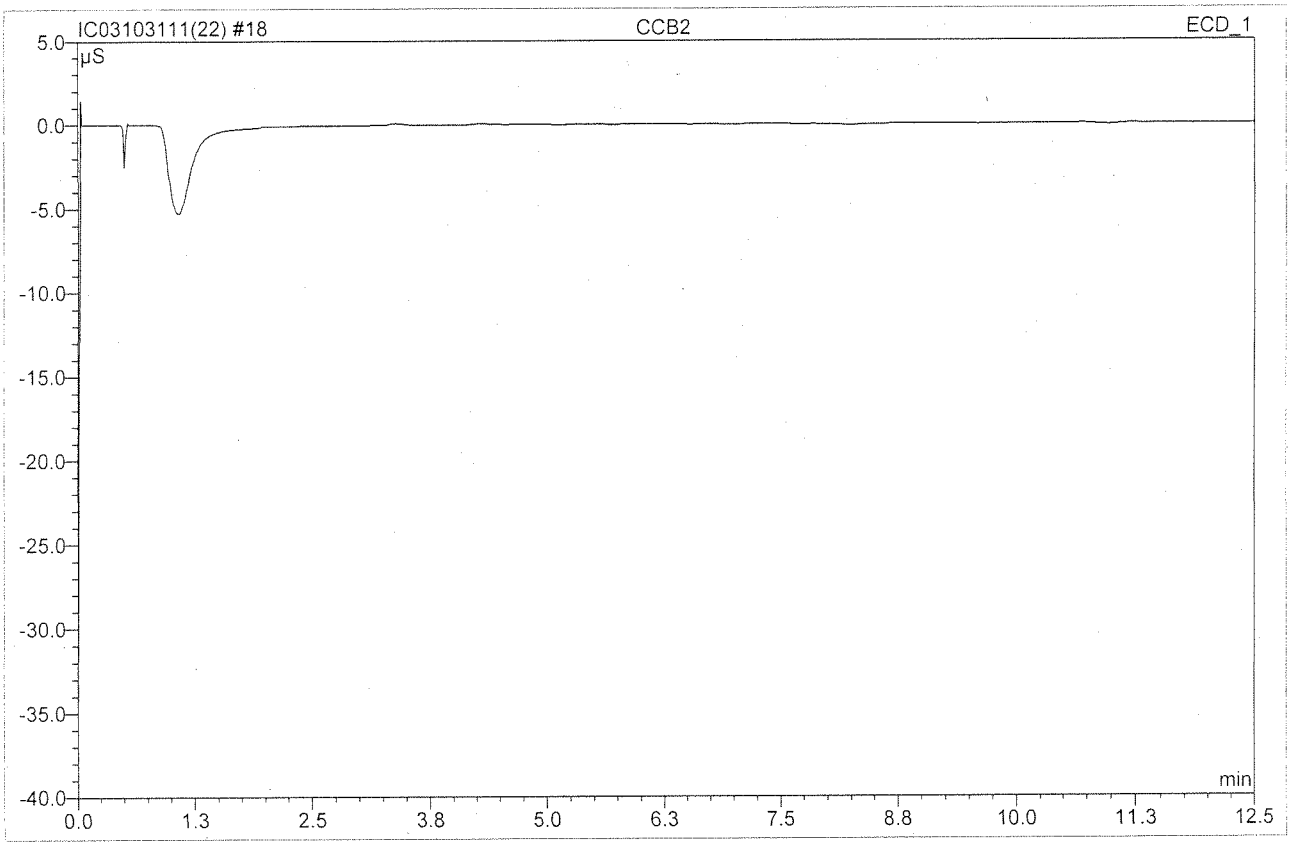


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.00	Fluoride	74.998	11.142	26.36	106 5.284	BMb
2	3.38	Chloride	56.466	7.822	18.50	98 4.917	bMB
3	4.30	Nitrite	41.565	7.276	17.21	98 2.456	BMb
4	5.35	Bromide	7.799	1.400	3.31	100 2.514	bMB
5	6.13	Nitrate	48.598	9.803	23.19	100 2.492	BMB
6	10.92	Sulfate	12.982	4.830	11.42	97 4.842	BMB
Total:			242.408	42.272	100.00	22.505	

18 CCB2

CCB2

Sample Name:	**CCB2**	*Injection Volume:*	**200.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 11:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

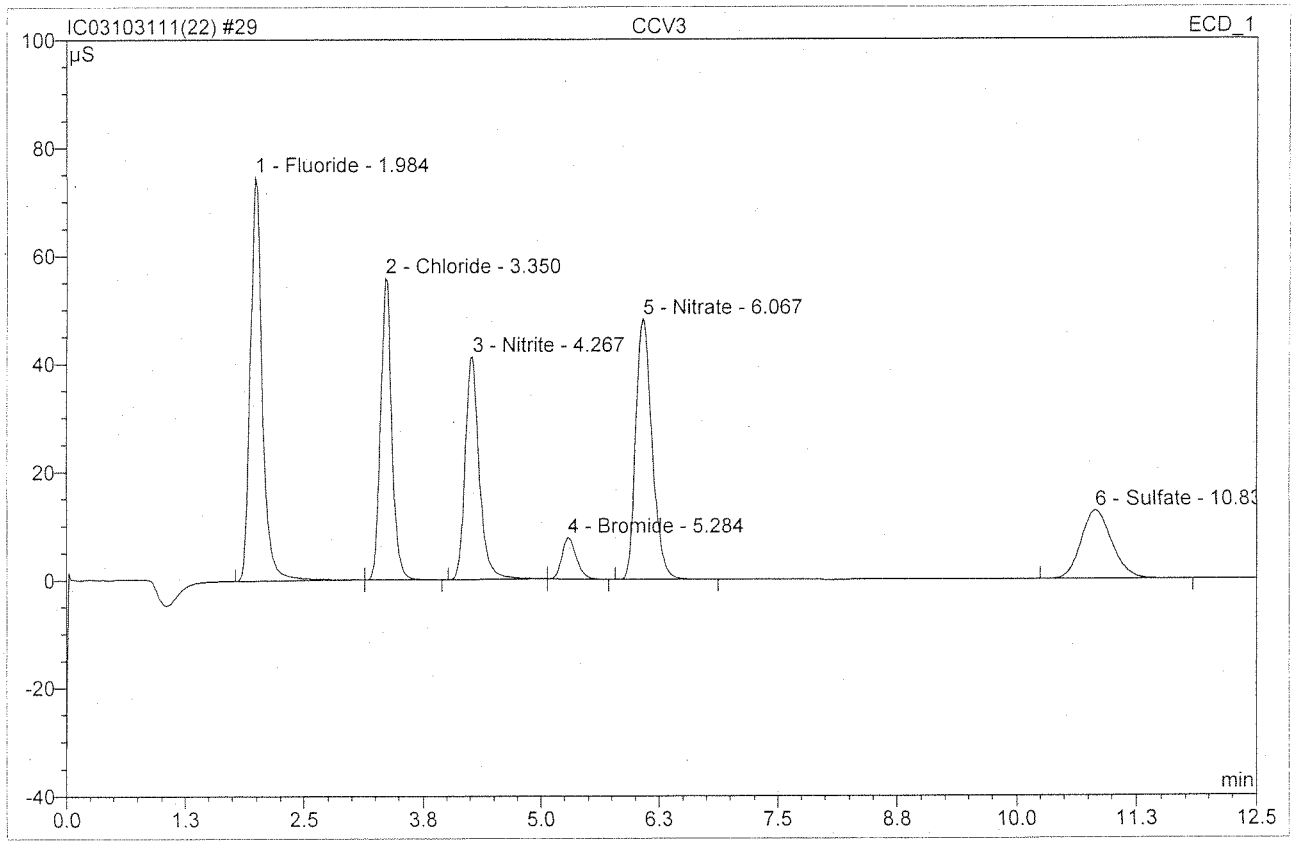


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

29 CCV3

CCV3

Sample Name:	**CCV3**	*Injection Volume:*	**200.0**
Vial Number:	**46**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 16:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

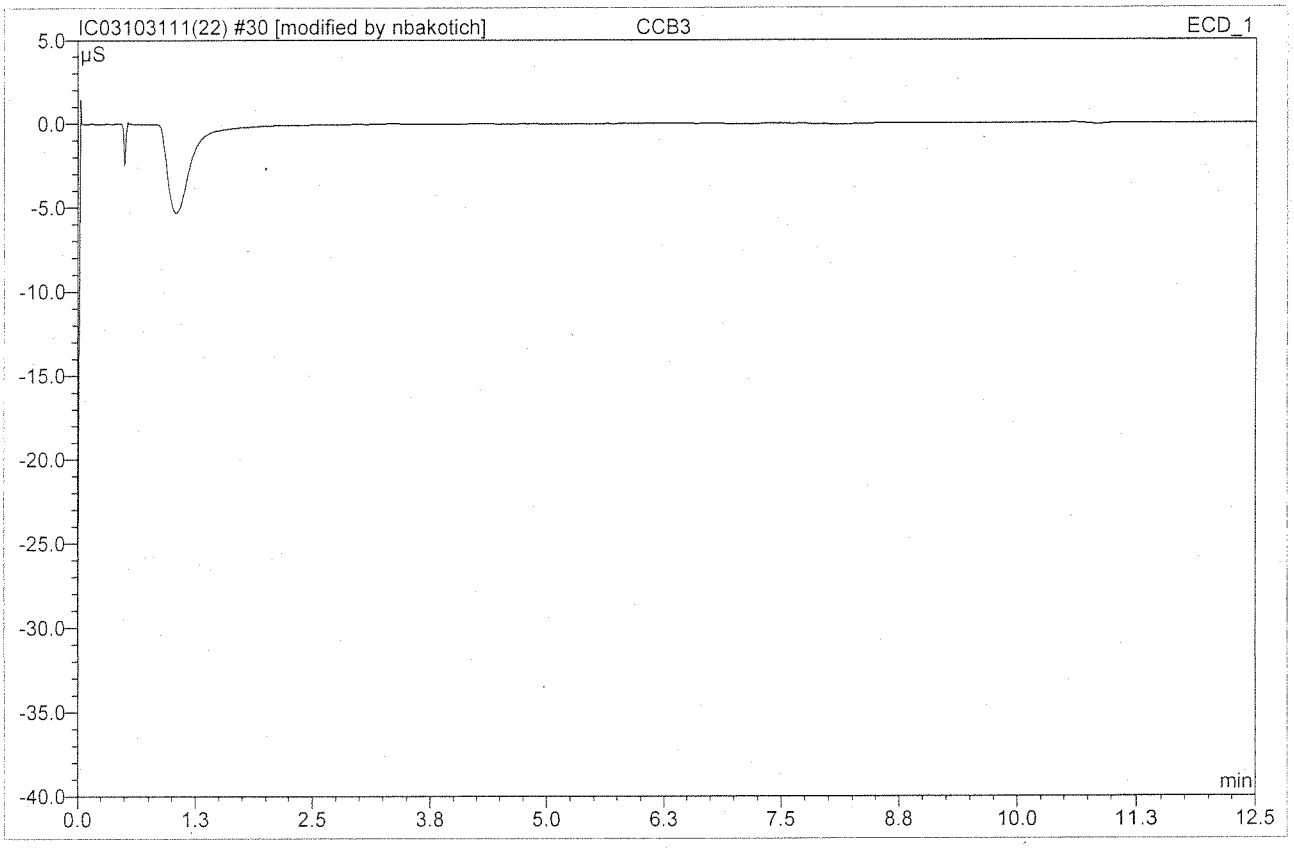


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.98	Fluoride	74.775	10.910	26.29	5.174	BMb
2	3.35	Chloride	55.754	7.688	18.53	4.833	bMB
3	4.27	Nitrite	41.215	7.169	17.28	2.420	BMb
4	5.28	Bromide	7.656	1.371	3.30	2.462	bMB
5	6.07	Nitrate	48.141	9.600	23.13	2.440	BMB
6	10.83	Sulfate	12.678	4.758	11.47	4.770	BMB
Total:			240.219	41.495	100.00	22.099	

30 CCB3

CCB3

Sample Name:	**CCB3**	*Injection Volume:*	**200.0**
Vial Number:	**47**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 16:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

After Initials _____

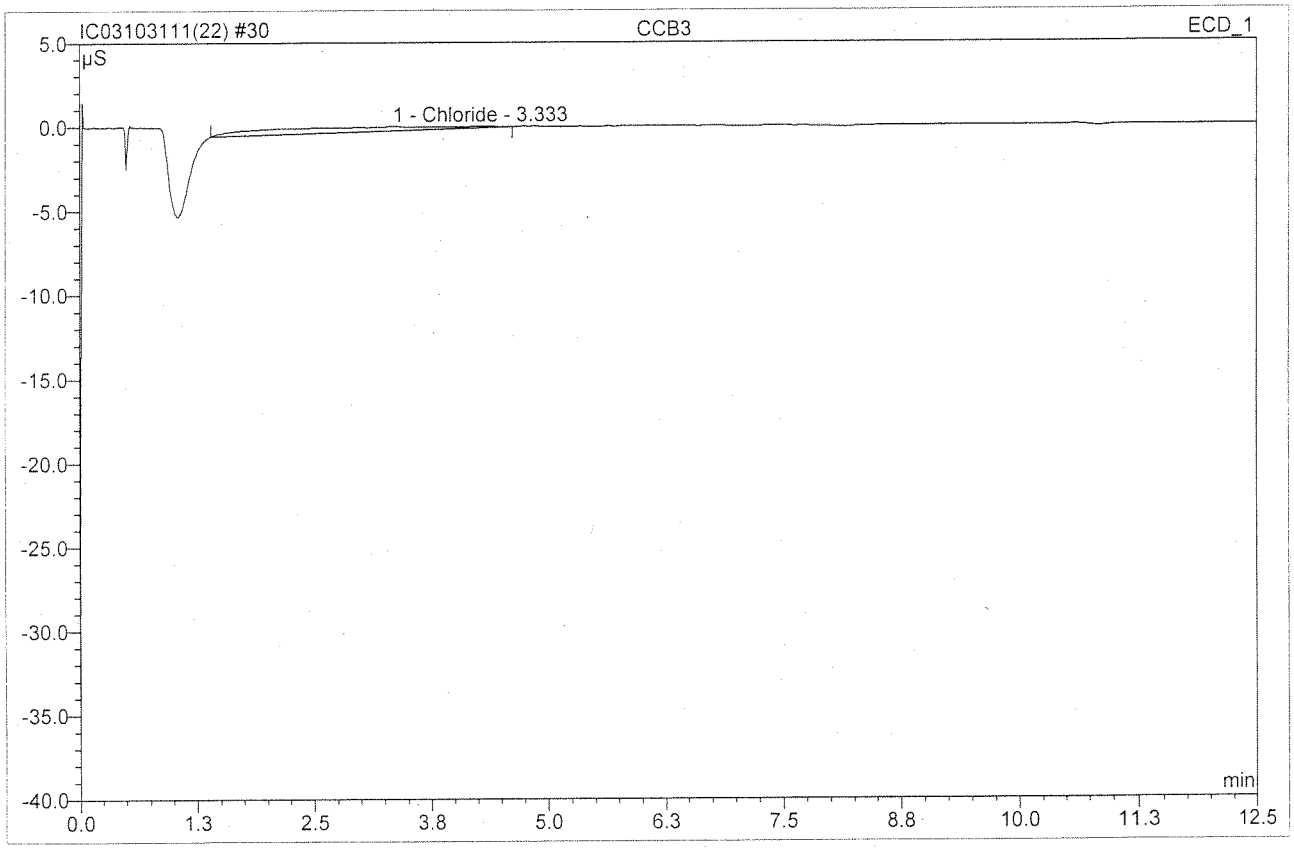
OCT 3 1 2011

☐ Wrong Peak/Peak not Found
☑ Baseline/shoulder Incorrect
☐ Other_____

30 CCB3

CCB3

Sample Name:	**CCB3**	*Injection Volume:*	**200.0**
Vial Number:	**47**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 16:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.33	Chloride	0.261	0.665	100.00	0.418	BMB
Total:			0.261	0.665	100.00	0.418	

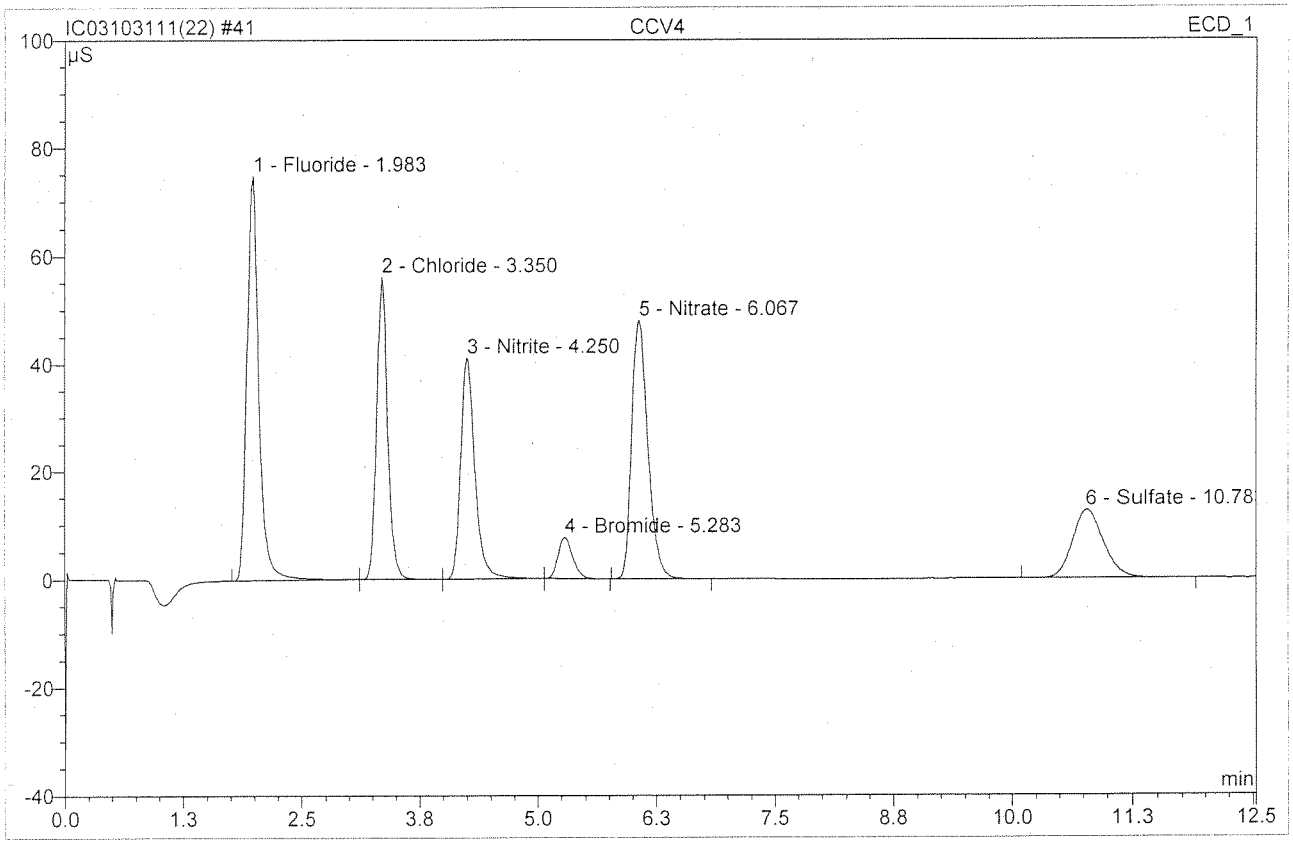
Before

OCT 3 1 2011

41 CCV4

CCV4

Sample Name:	**CCV4**	*Injection Volume:*	**200.0**
Vial Number:	**58**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 19:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.53**	*Sample Amount:*	**1.0000**

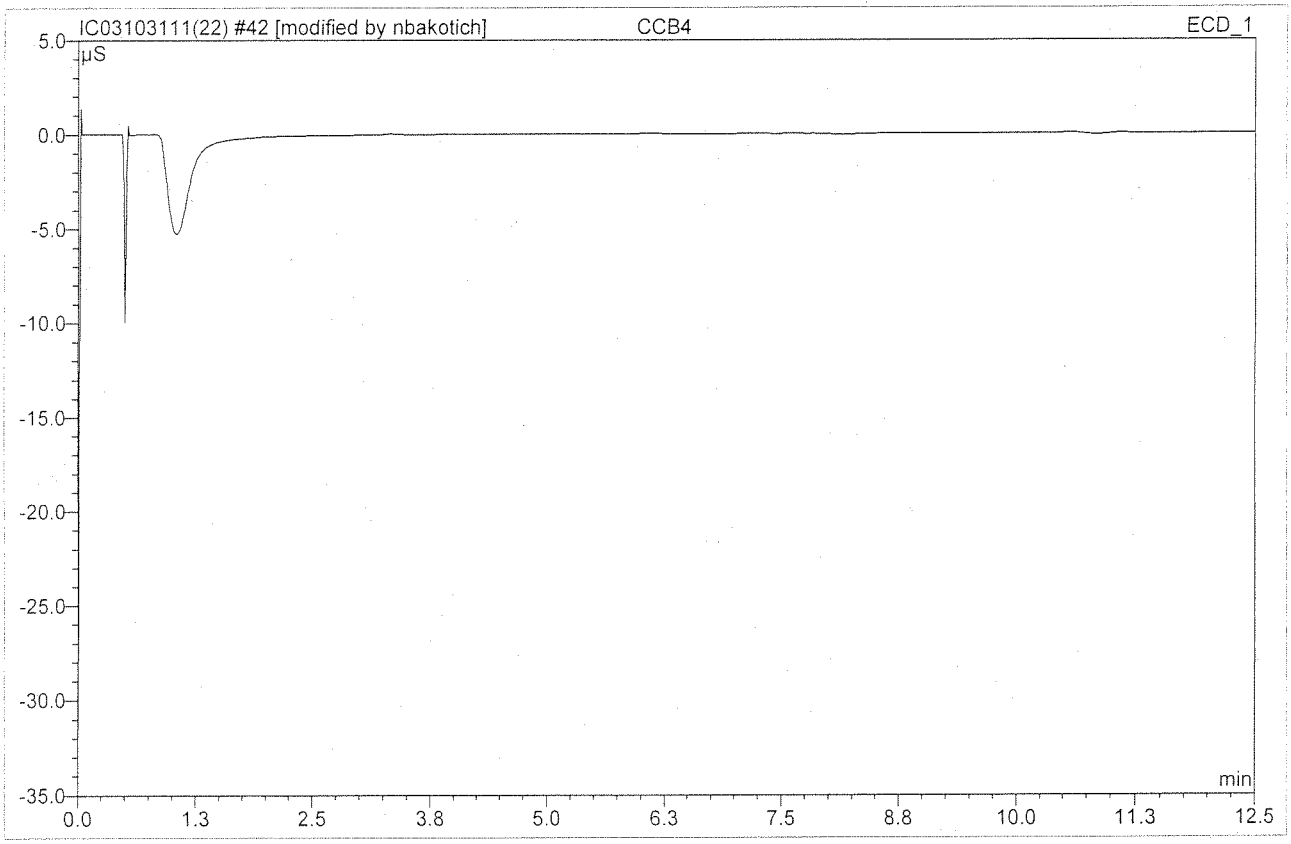


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.98	Fluoride	74.938	10.902	26.41	103 5.170	BMb
2	3.35	Chloride	56.025	7.630	18.48	96 4.797	bMb
3	4.25	Nitrite	41.131	7.124	17.26	96 2.404	bMb
4	5.28	Bromide	7.672	1.368	3.31	98 2.457	bMB
5	6.07	Nitrate	48.069	9.513	23.04	97 2.418	BMB
6	10.78	Sulfate	12.602	4.745	11.49	95 4.758	BMB
Total:			240.437	41.284	100.00	22.005	

42 CCB4

CCB4

Sample Name:	**CCB4**	*Injection Volume:*	**200.0**
Vial Number:	**59**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 19:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

After Initials rb

OCT 3 1 2011

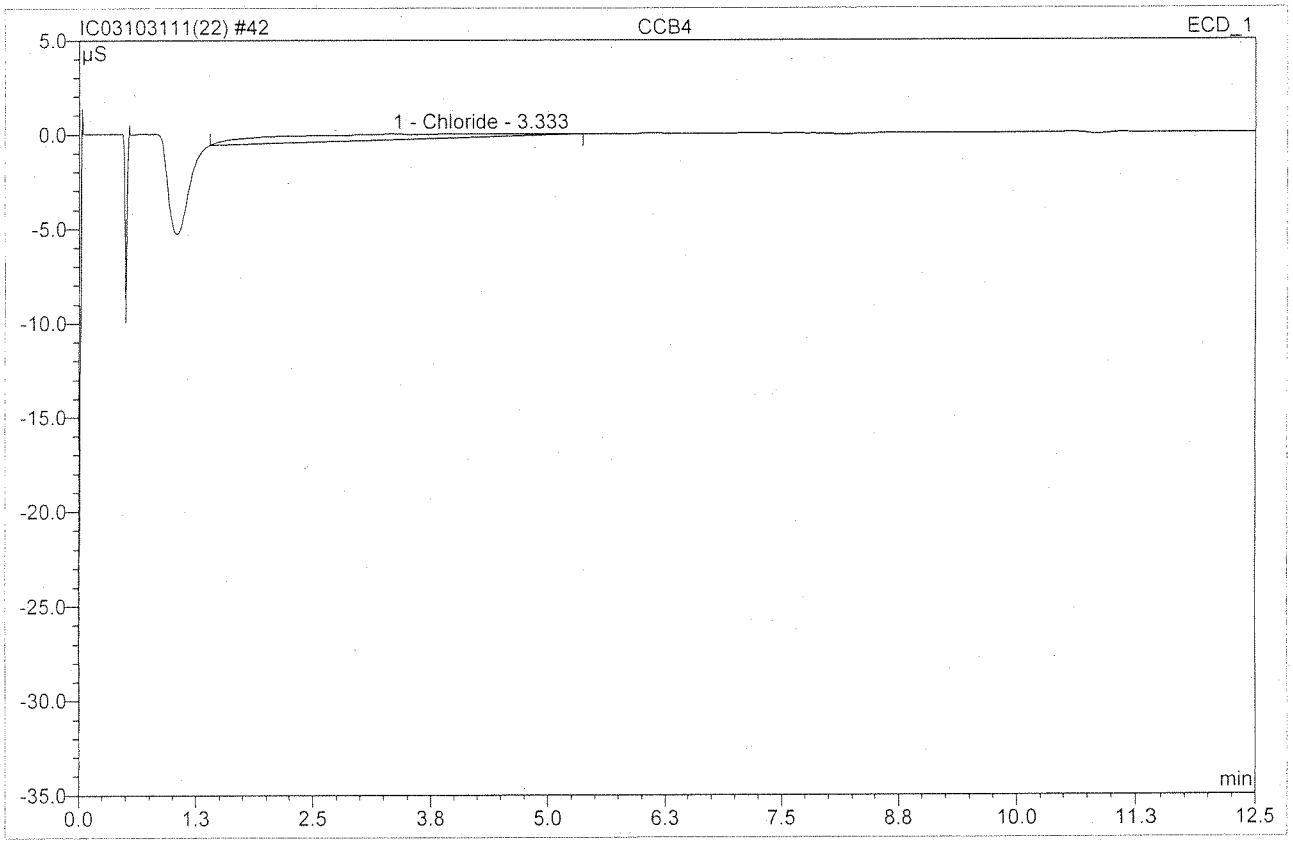
☑ Wrong Peak/Peak not Found
☐ Baseline/shoulder Incorrect
☐ Other

BNICH

42 CCB4

CCB4

Sample Name:	**CCB4**	*Injection Volume:*	**200.0**
Vial Number:	**59**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 19:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.33	Chloride	0.312	0.864	100.00	0.543	BMB
Total:			0.312	0.864	100.00	0.543	

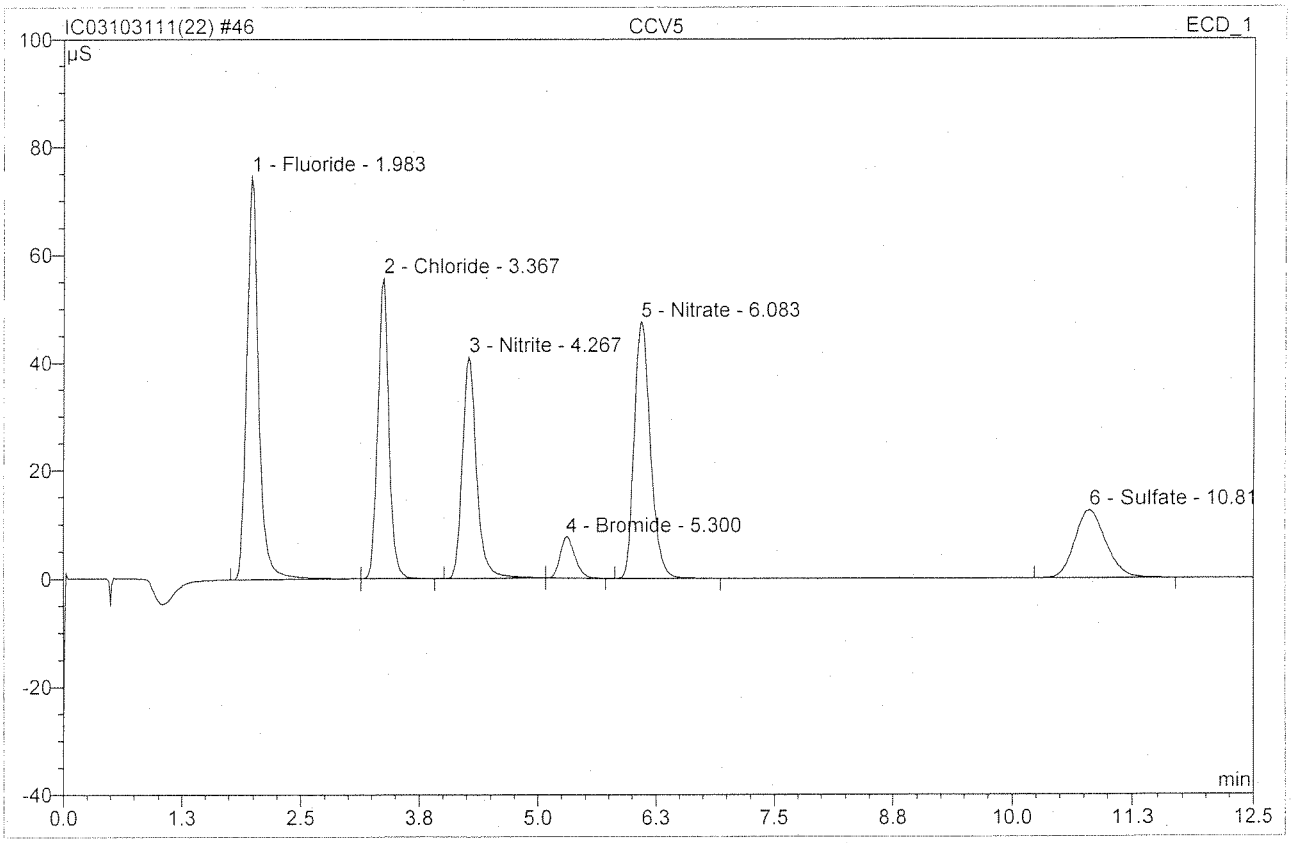
Before

OCT 3 1 2011

46 CCV5

CCV5

Sample Name:	**CCV5**	*Injection Volume:*	**200.0**
Vial Number:	**62**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 20:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**

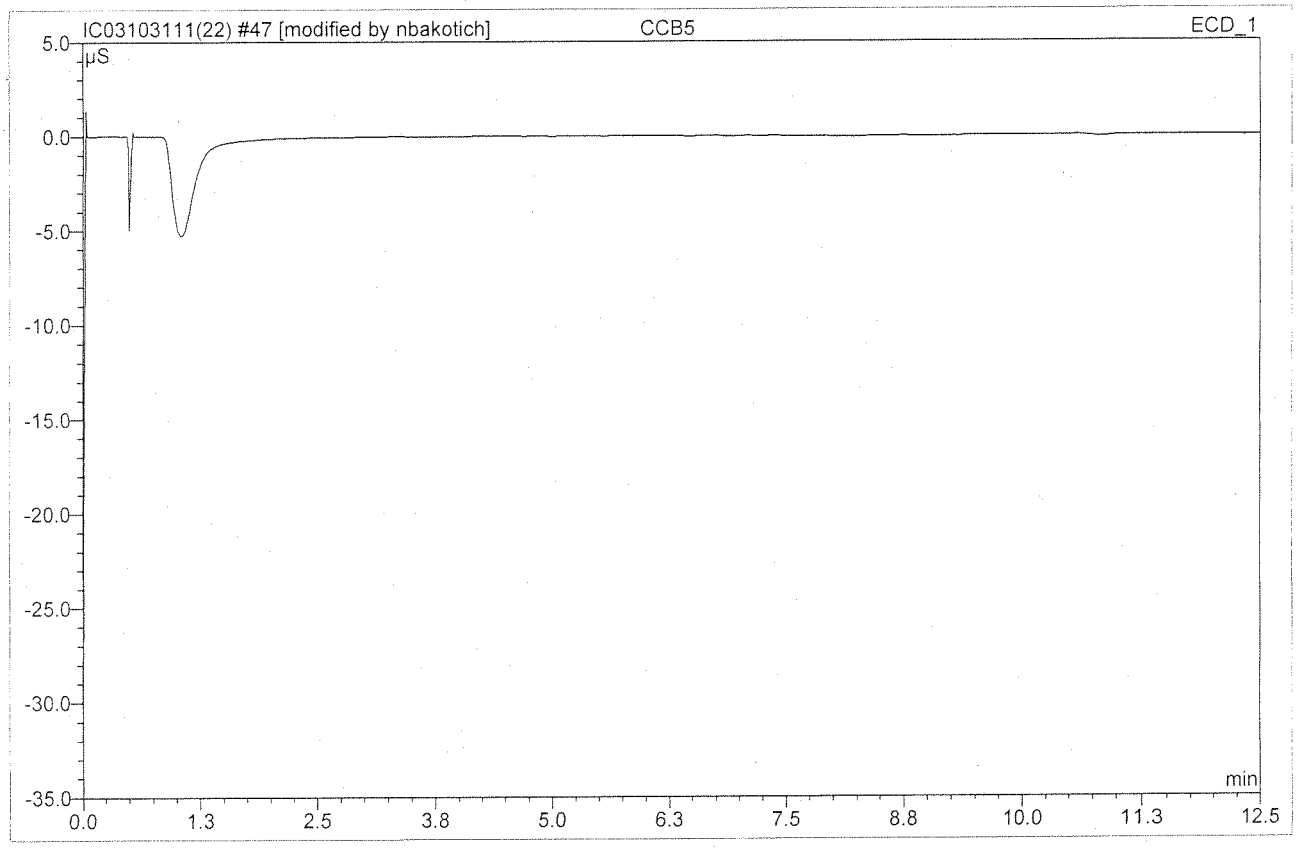


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	1.98	Fluoride	74.759	10.876	26.46	103 5.158	BMb
2	3.37	Chloride	55.685	7.580	18.44	95 4.765	bMB
3	4.27	Nitrite	41.004	7.092	17.25	96 2.394	BMb
4	5.30	Bromide	7.593	1.363	3.31	98 2.447	bMB
5	6.08	Nitrate	47.560	9.503	23.12	97 2.416	BMB
6	10.82	Sulfate	12.490	4.695	11.42	94 4.707	BMB
Total:			239.091	41.108	100.00	21.886	

47 CCB5

CCB5

Sample Name:	**CCB5**	*Injection Volume:*	**200.0**
Vial Number:	**63**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 20:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

After Initials ____

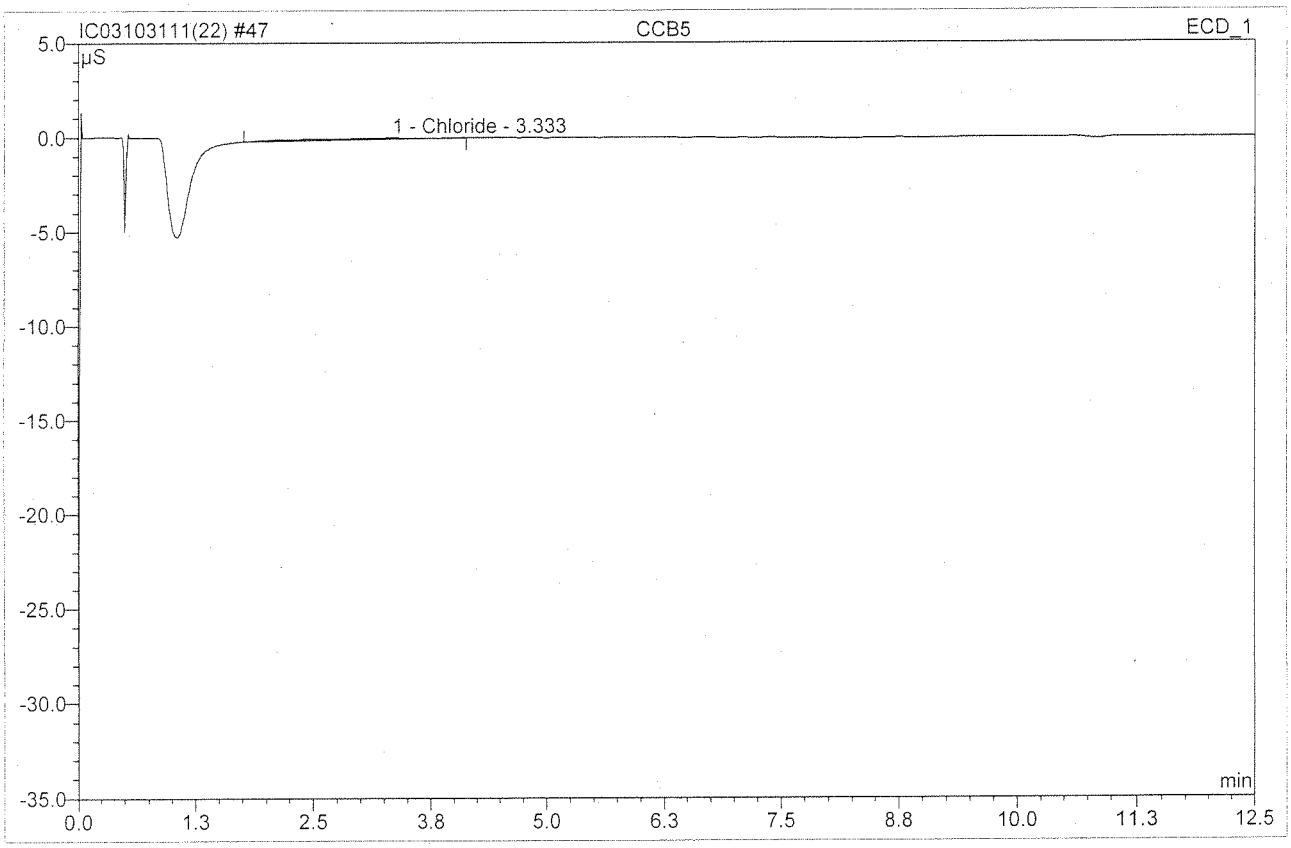
OCT 3 1 2011

☑ Wrong Peak/Peak not Found
☐ Baseline/shoulder Incorrect
☐ Other ____

47 CCB5

CCB5

Sample Name:	**CCB5**	*Injection Volume:*	**200.0**
Vial Number:	**63**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2011 20:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**12.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.33	Chloride	0.098	0.126	100.00	0.079	BMB
Total:			0.098	0.126	100.00	0.079	

Before

OCT 3 1 2011

COLUMBIA ANALYTICAL SERVICES, INC.
Ion Chromatography Calibration Data

Sequence: IC03090211(22)C **Date: 09/02/11**

Anion	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	orr.Coef	Slope
F	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.9912	2.1086
Cl	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.938	1.5907
NO2	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.9915	2.9629
Br	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.9514	0.5569
NO3	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.8573	3.9339
SO4	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.8967	0.9973

All calibration standard concentrations are in mg/L unless otherwise noted.
Zero point forced through zero.

No.	Peak Name	Cal.Type	#Points	Rel.Std.Dev.	Corr.Coeff.	Offset	Slope	Curve
				%	%			
1	Fluoride	Lin	7	1.6521	99.9912	0	2.1086	0
2	Chloride	Lin	7	5.4941	99.938	0	1.5907	0
n.a.	Nitrite	Lin	6	2.6419	99.9915	0	2.9629	0
n.a.	Bromide	Lin	6	5.4644	99.9514	0	0.5569	0
n.a.	Nitrate	Lin	6	10.4439	99.8573	0	3.9339	0
3	Sulfate	Lin	7	5.8407	99.8967	0	0.9973	0
Average:			6.5	5.2562	99.9377	0	2.025	0

AN11-40-A	100PPM	NO2, BR, NO3
AN11-40-B	100PPM	F, CL, SO4

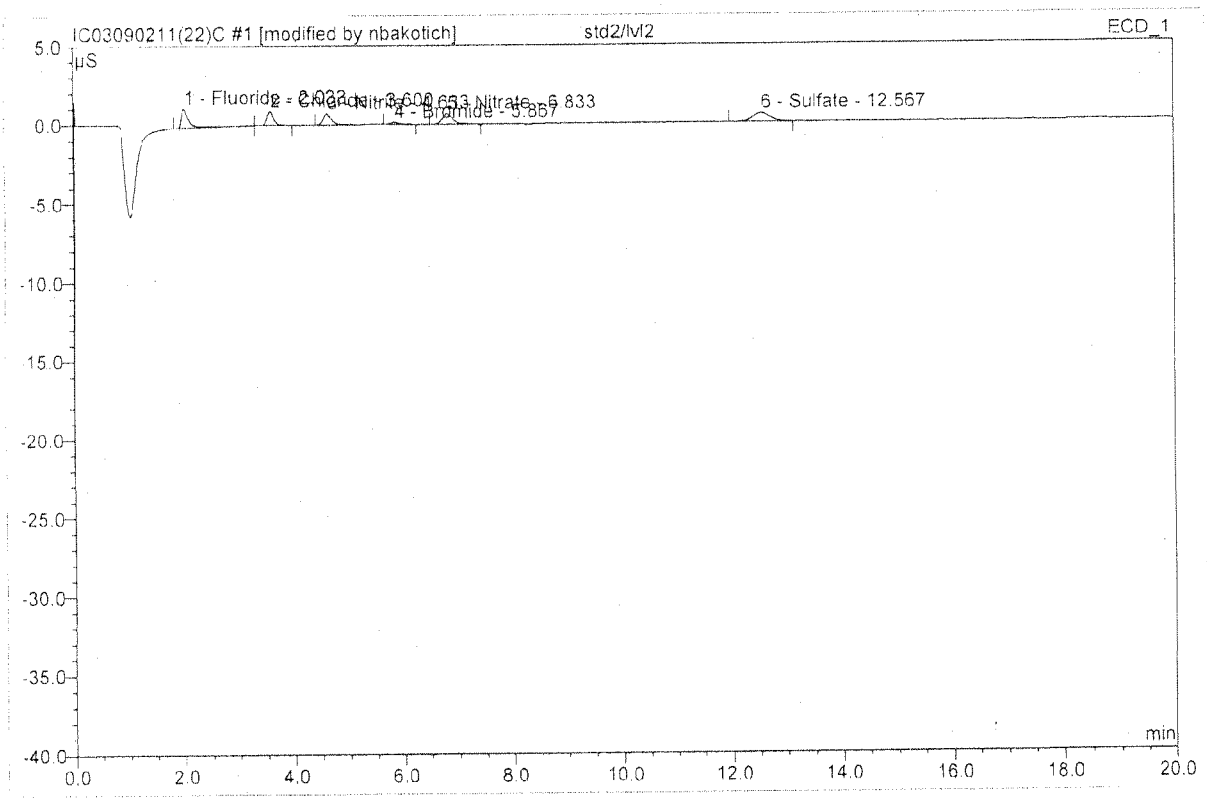
mL added

	AN11-40-C	AN11-40-D	AN11-40-E	AN11-40-F	AN11-40-G	AN11-40-H	AN11-40-I	
	STD2	STD3	STD4	STD5	STD6	STD7	STD8	STD1
F	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
CL	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
SO4	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
NO2	0.050	0.100	0.500	1.000	2.00	5.00	--	0
NO3	0.050	0.100	0.500	1.000	2.00	5.00	--	0
BR	0.050	0.100	0.500	1.000	2.00	5.00	--	0

BH 9.9.11

1 std2/lvl2

Sample Name:	**std2/lvl2**	*Injection Volume:*	**200.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 11:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.03	Fluoride	1.234	0.209	24.82	0.099	BMb*
2	3.60	Chloride	0.875	0.126	14.98	0.079	bMB
3	4.63	Nitrite	0.708	0.125	14.84	0.042	BMB
4	5.87	Bromide	0.124	0.024	2.89	0.044	BMB*
5	6.83	Nitrate	0.677	0.152	18.13	0.039	BMB
6	12.57	Sulfate	0.562	0.205	24.33	0.205	BMB
Total:			4.180	0.841	100.00	0.508	

After Initials _____

SEP 09 2011

Before 09.9.11

SEP 09 2011 8A9.9.11

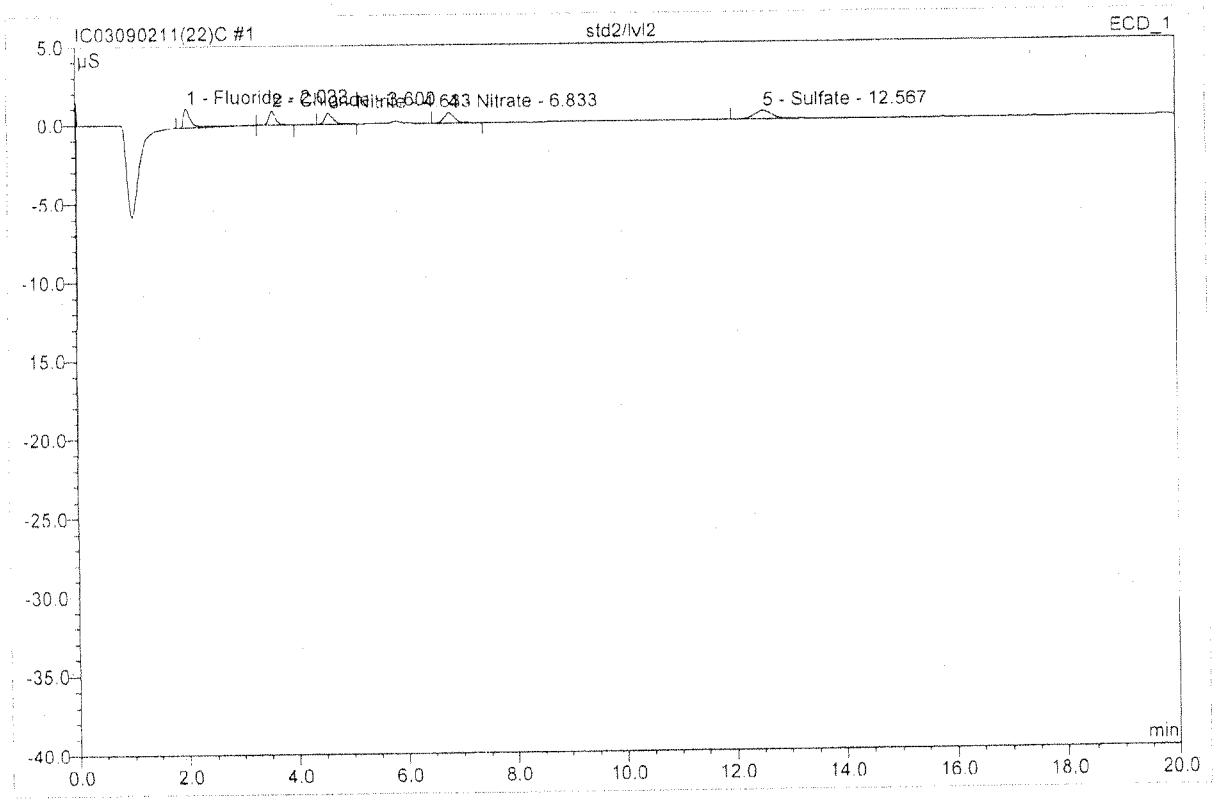
default/Integration

☑ Wrong Peak/Peak not Fo...
☐ Baseline/Shoulder Incorrect
☐ Other _____

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

1 std2/lvl2

Sample Name:	**std2/lvl2**	*Injection Volume:*	**200.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 11:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.03	Fluoride	1.234	0.209	25.56	0.099	BMB
2	3.60	Chloride	0.875	0.126	15.43	0.079	bMB
3	4.63	Nitrite	0.708	0.125	15.29	0.042	BMB
4	6.83	Nitrate	0.677	0.152	18.67	0.039	BMB
5	12.57	Sulfate	0.562	0.205	25.06	0.205	BMB
Total:			4.057	0.817	100.00	0.464	

Before

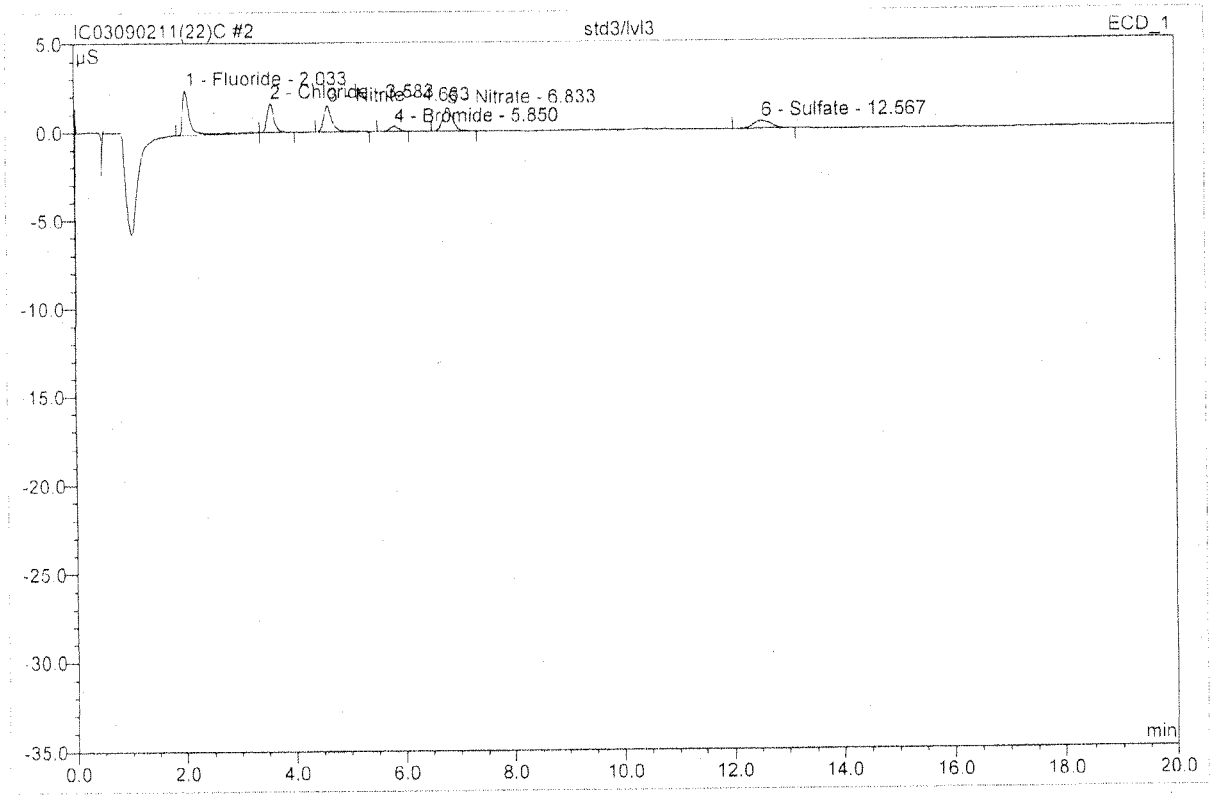
SEP - 9 2011

default/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2 std3/lvl3

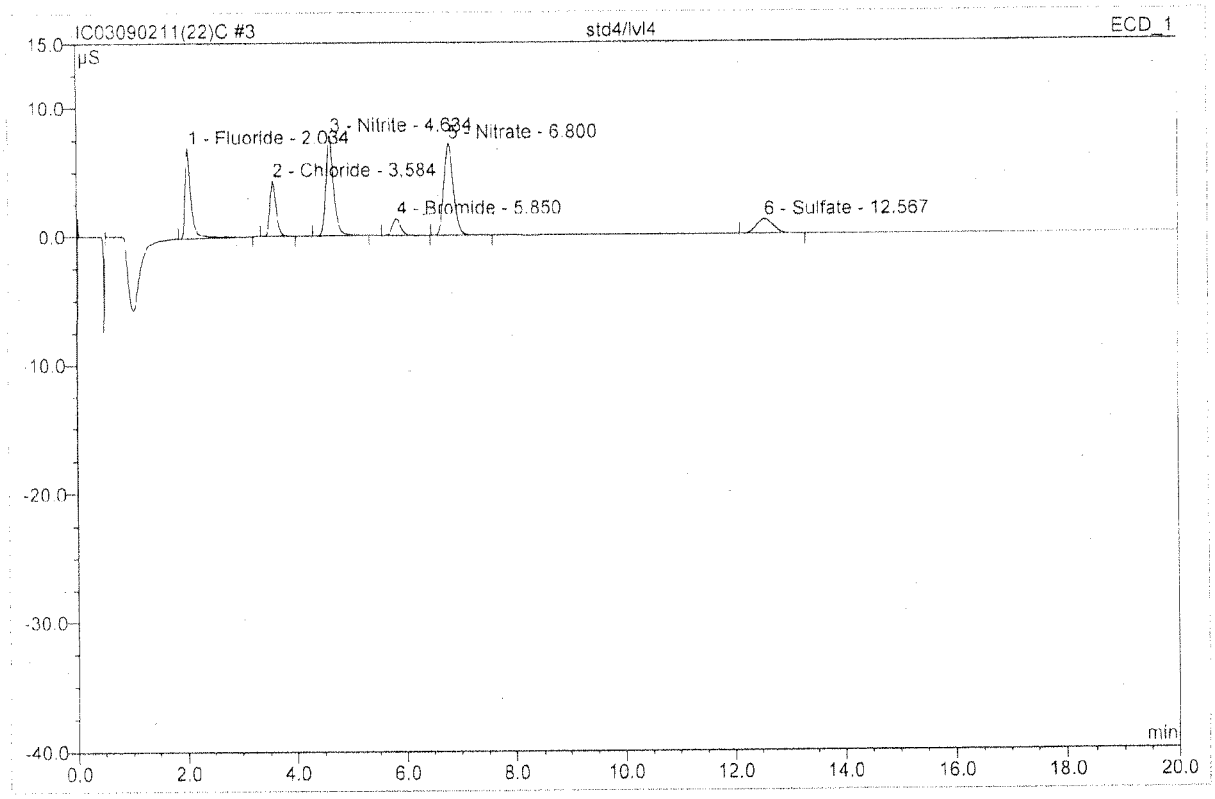
Sample Name:	**std3/lvl3**	*Injection Volume:*	**200.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 12:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.03	Fluoride	2.561	0.401	28.76	0.190	BMB
2	3.58	Chloride	1.652	0.233	16.70	0.146	bMB
3	4.63	Nitrite	1.455	0.259	18.57	0.087	BMB
4	5.85	Bromide	0.270	0.052	3.73	0.094	BMB
5	6.83	Nitrate	1.315	0.284	20.40	0.072	BMB
6	12.57	Sulfate	0.459	0.165	11.85	0.166	BMB
Total:			7.713	1.394	100.00	0.755	

3 std4/lvl4

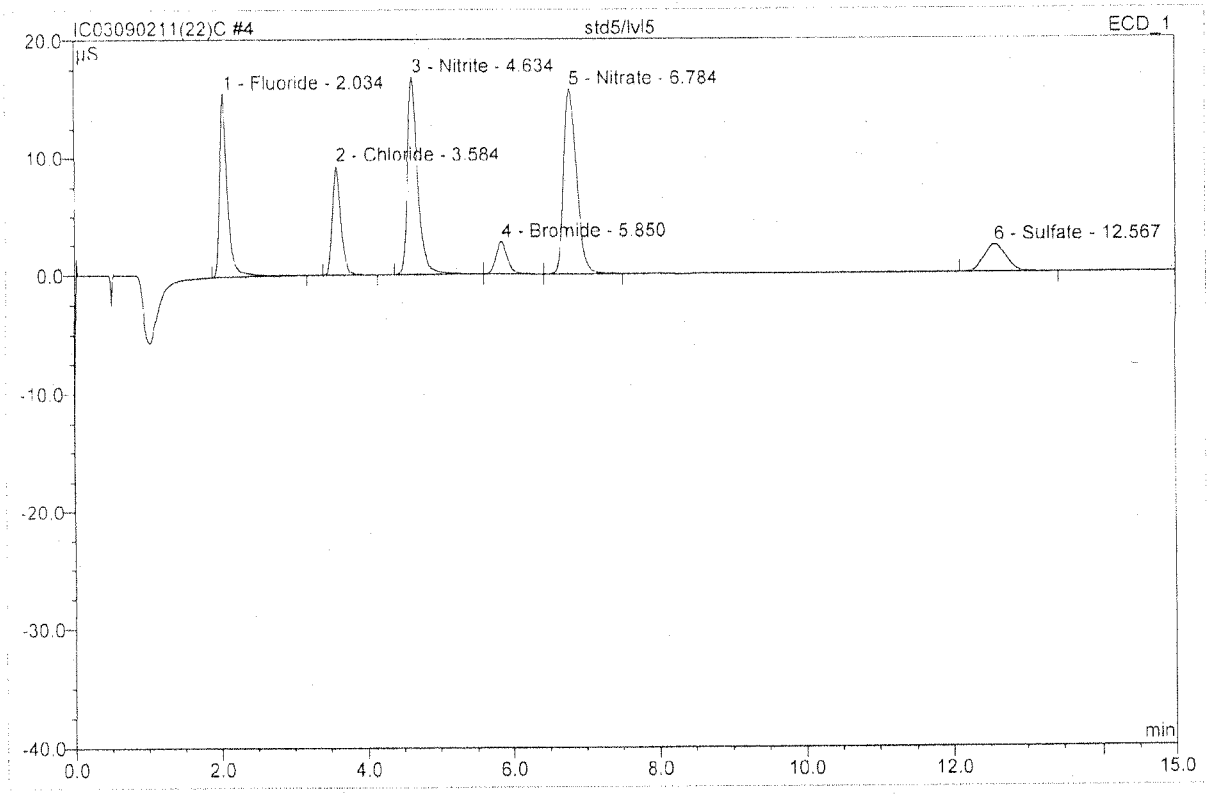
Sample Name:	**std4/lvl4**	*Injection Volume:*	**200.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 12:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.03	Fluoride	7.003	0.933	18.73	0.442	BMB
2	3.58	Chloride	4.308	0.585	11.75	0.368	BMB
3	4.63	Nitrite	7.748	1.316	26.43	0.444	BMB
4	5.85	Bromide	1.313	0.248	4.99	0.446	BMB
5	6.80	Nitrate	7.191	1.480	29.72	0.376	BMB
6	12.57	Sulfate	1.150	0.417	8.38	0.419	BMB
Total:			28.712	4.980	100.00	2.495	

4 std5/lvl5

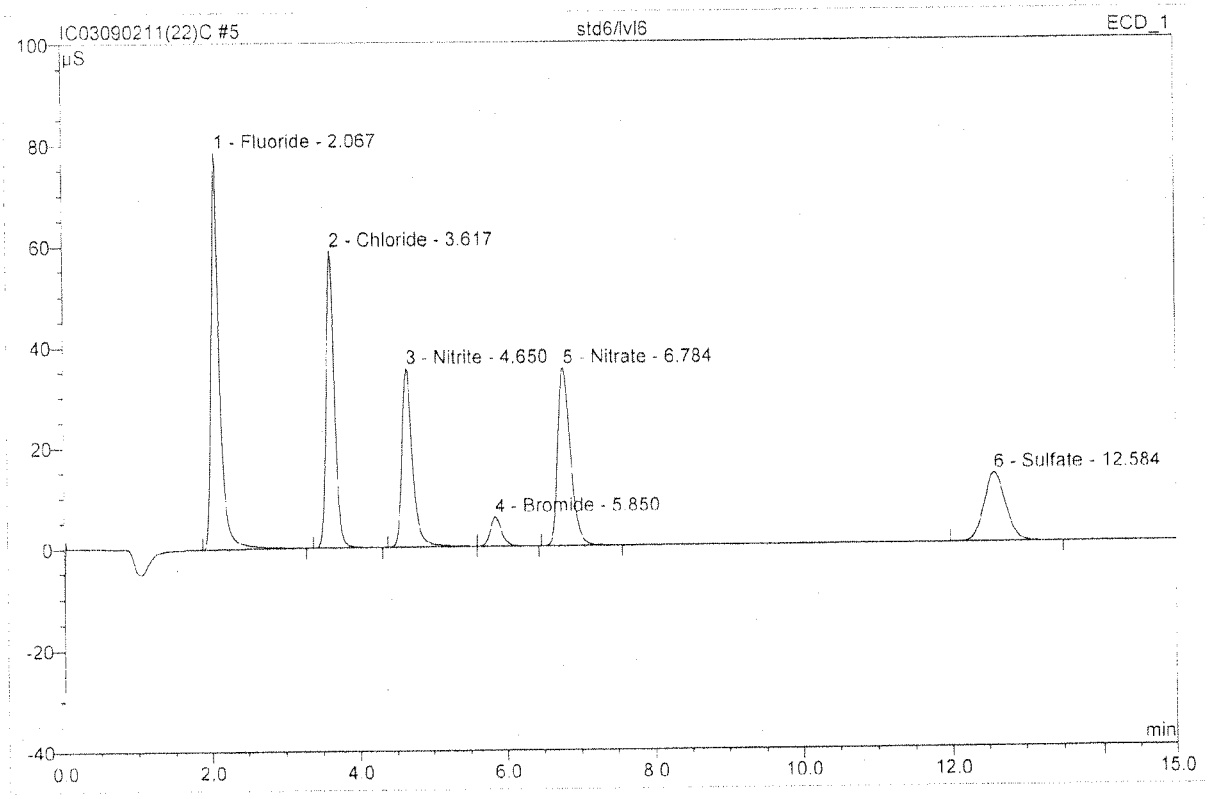
Sample Name:	**std5/lvl5**	*Injection Volume:*	**200.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 12:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.03	Fluoride	15.650	1.943	18.49	0.921	BMB
2	3.58	Chloride	9.348	1.239	11.79	0.779	BMB
3	4.63	Nitrite	16.865	2.791	26.56	0.942	BMb
4	5.85	Bromide	2.734	0.507	4.82	0.910	bMb
5	6.78	Nitrate	15.793	3.188	30.34	0.810	bMB
6	12.57	Sulfate	2.339	0.839	7.99	0.842	BMB
Total:			62.730	10.507	100.00	5.204	

5 std6/lvl6

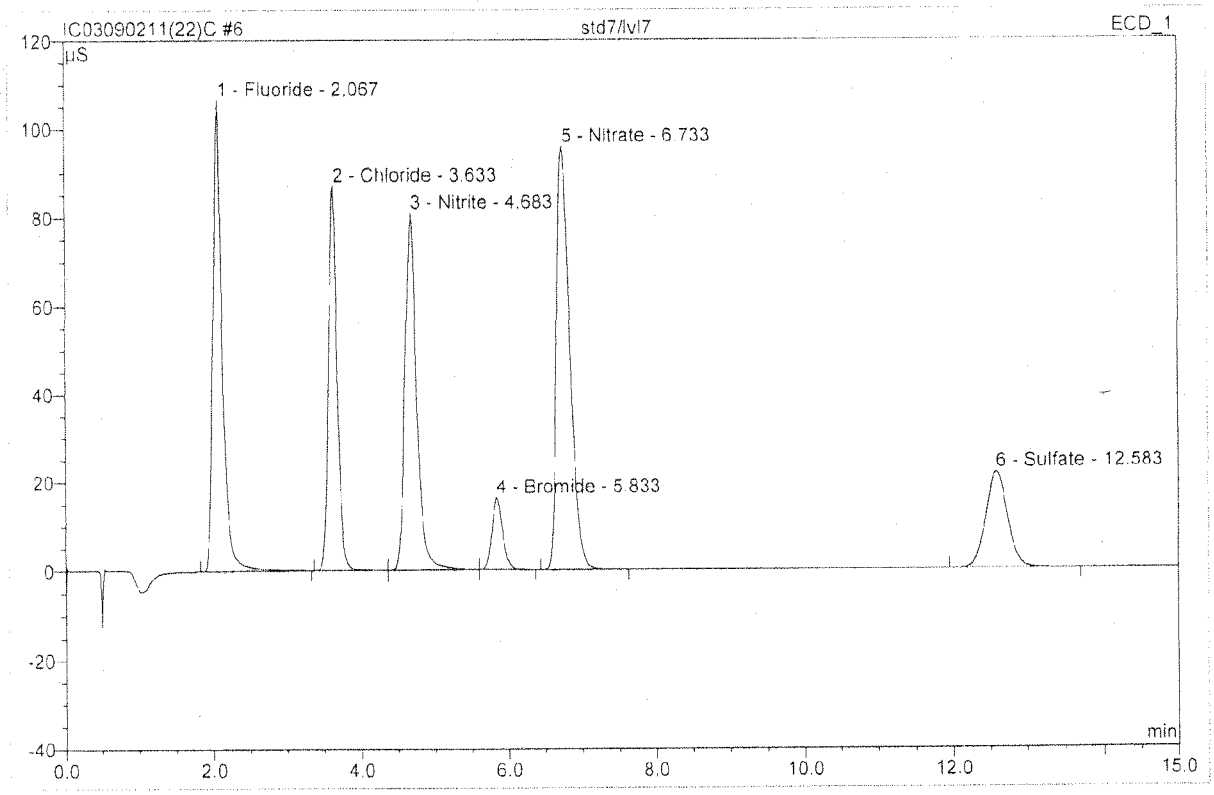
Sample Name:	**std6/lvl6**	*Injection Volume:*	**200.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 13:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.07	Fluoride	78.682	10.675	28.87	5.063	BMB
2	3.62	Chloride	58.820	7.548	20.42	4.745	BMB
3	4.65	Nitrite	35.483	5.917	16.00	1.997	BMb
4	5.85	Bromide	5.834	1.049	2.84	1.884	bMB
5	6.78	Nitrate	35.378	7.133	19.29	1.813	BMB
6	12.58	Sulfate	13.624	4.649	12.58	4.662	BMB
Total:			227.821	36.970	100.00	20.163	

6 std7/lvl7

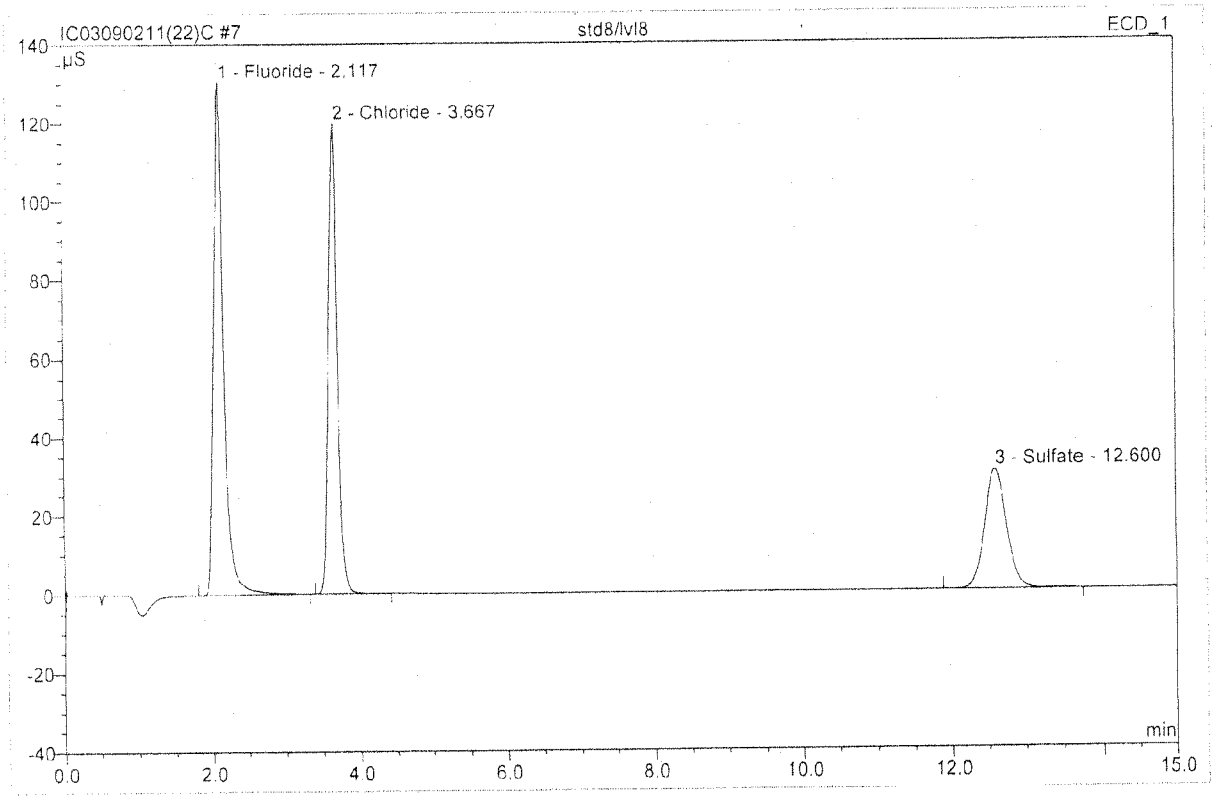
Sample Name:	**std7/lvl7**	*Injection Volume:*	**200.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 13:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.07	Fluoride	106.675	15.923	21.84	7.551	BMB
2	3.63	Chloride	87.072	11.745	16.11	7.383	BMb
3	4.68	Nitrite	80.896	14.870	20.40	5.019	bMb
4	5.83	Bromide	16.272	2.823	3.87	5.070	bMB
5	6.73	Nitrate	95.721	20.164	27.66	5.126	BMB
6	12.58	Sulfate	21.742	7.377	10.12	7.397	BMB
Total:			408.377	72.902	100.00	37.546	

7 std8/lvl8

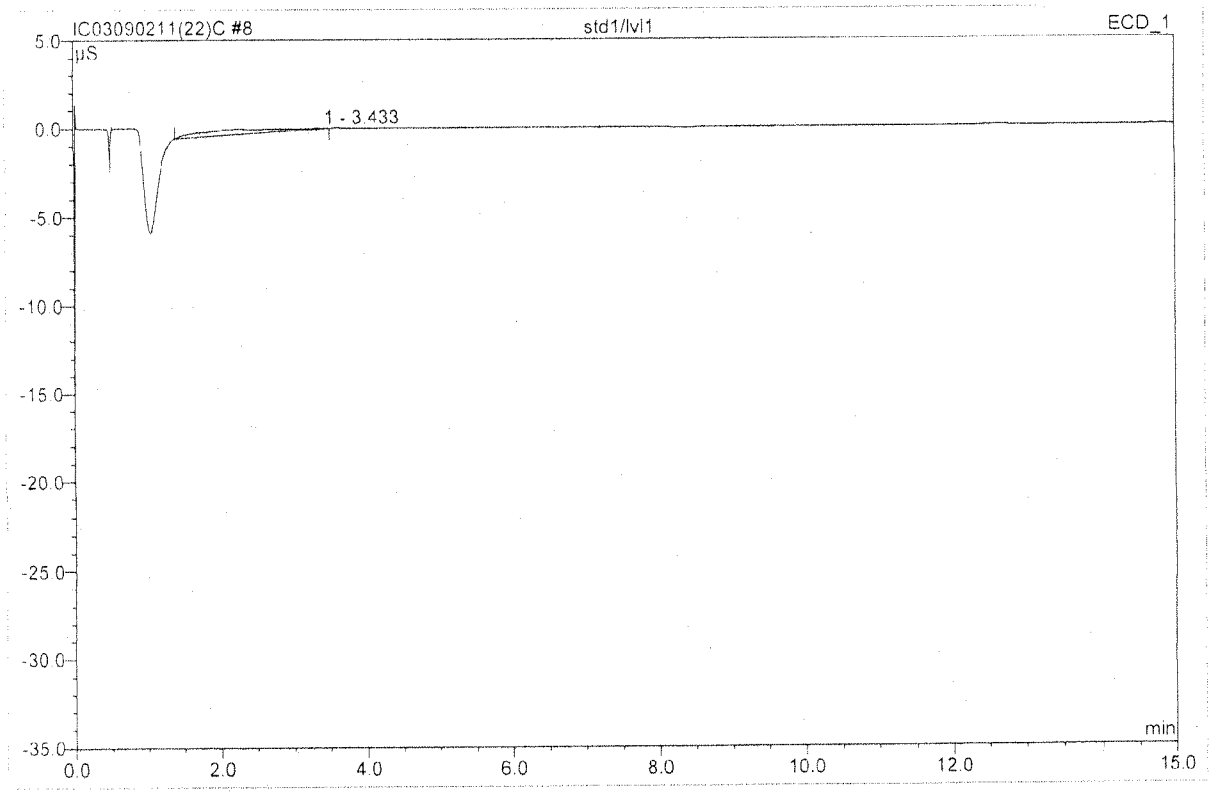
Sample Name:	**std8/lvl8**	*Injection Volume:*	**200.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 13:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.12	Fluoride	130.437	20.962	44.13	9.941	BMB
2	3.67	Chloride	119.697	16.297	34.31	10.245	BMB
3	12.60	Sulfate	30.509	10.239	21.56	10.266	BMB
Total:			280.643	47.497	100.00	30.452	

8 std1/lvl1

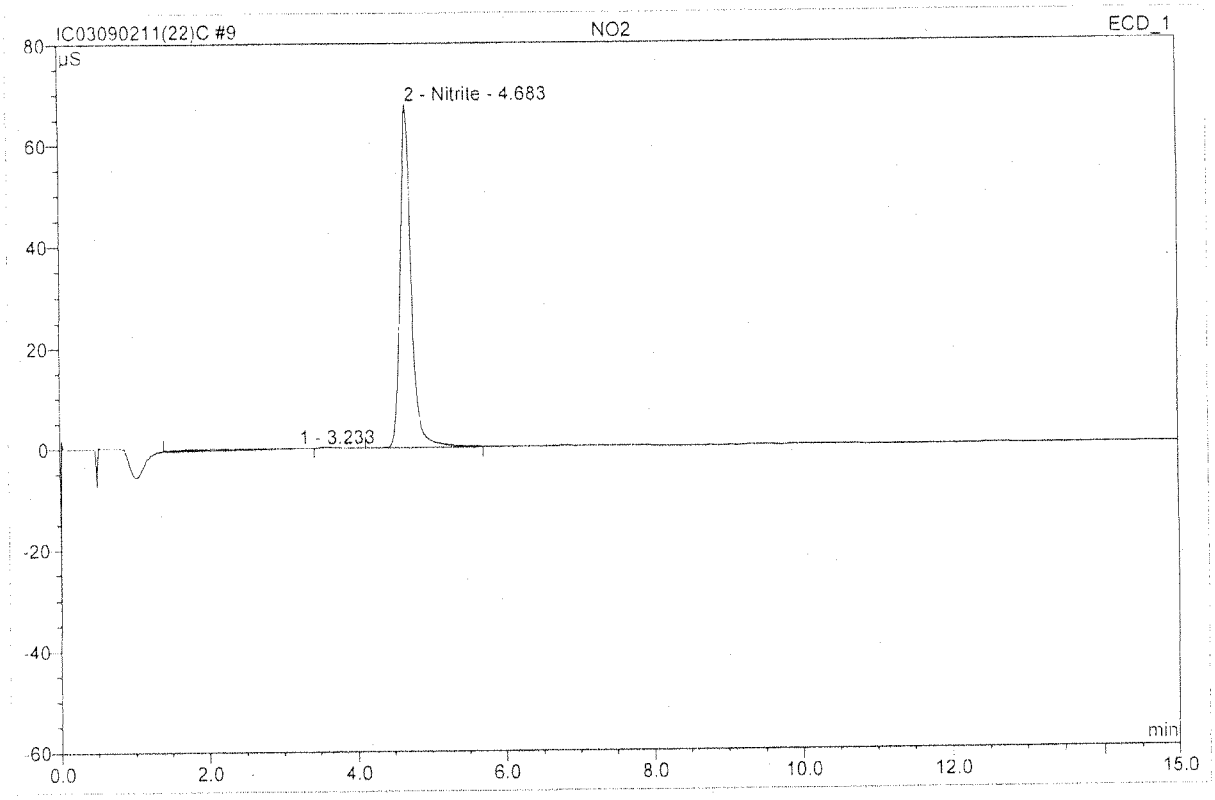
Sample Name:	**std1/lvl1**	*Injection Volume:*	**200.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 14:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.43	n.a.	0.022	0.361	100.00	n.a.	BMB
Total:			0.022	0.361	100.00	0.000	

9 NO2

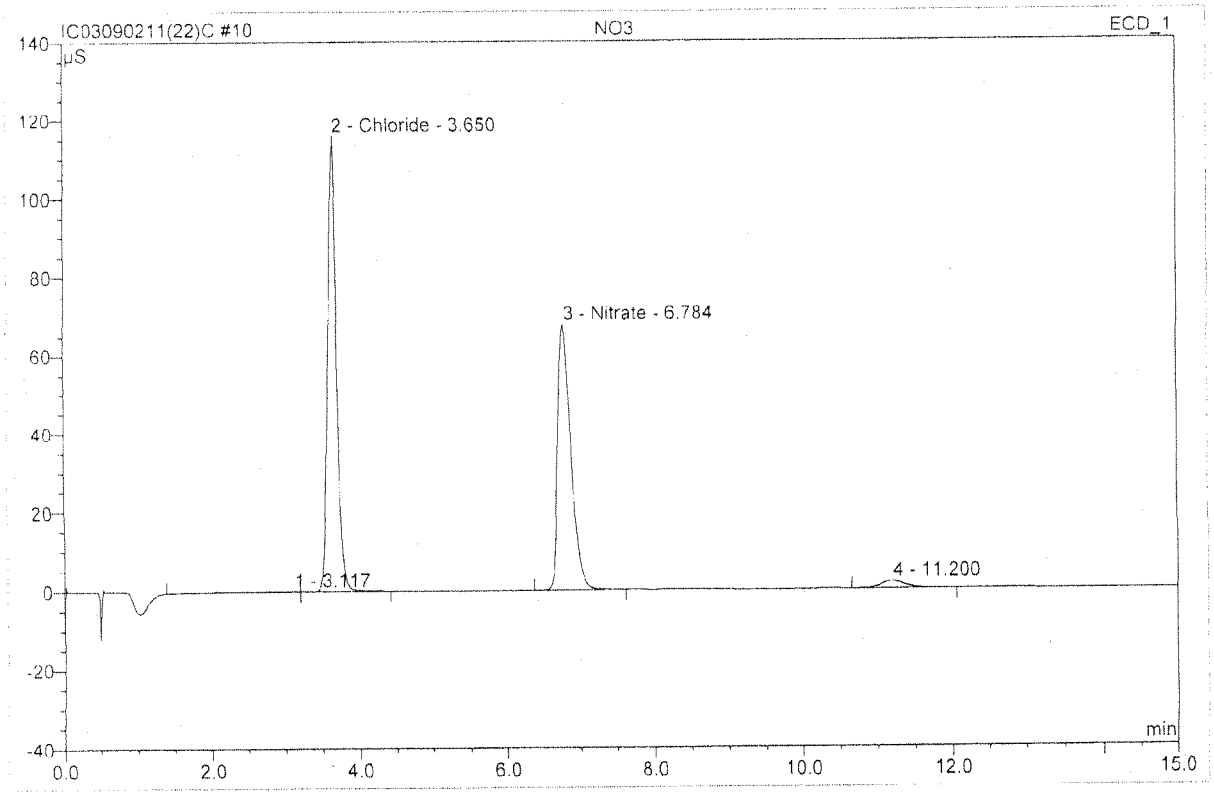
Sample Name:	**NO2**	*Injection Volume:*	**200.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**25.0000**
Recording Time:	**9/2/2011 14:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.23	n.a.	0.051	0.298	2.42	n.a.	BMB
2	4.68	Nitrite	67.719	12.011	97.58	(ppm) 101.347	BMB
Total:			67.769	12.309	100.00	101.347	

10 NO3

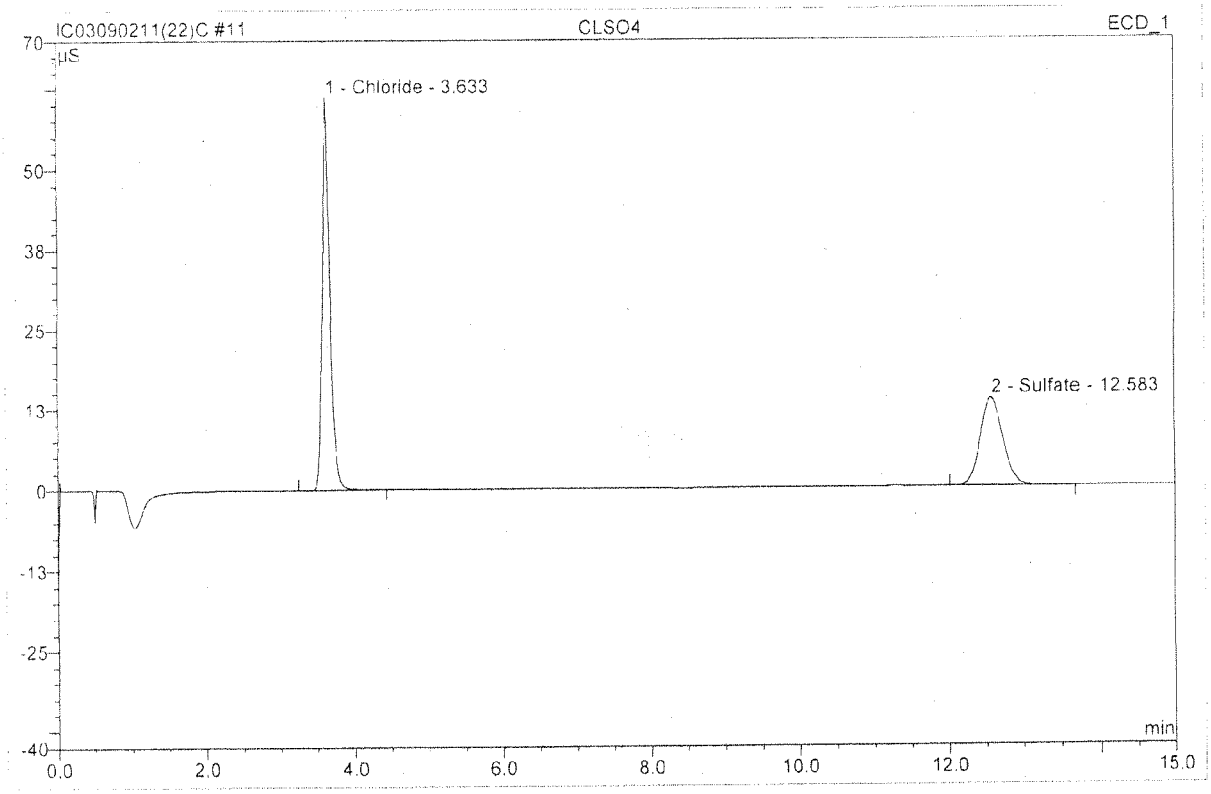
Sample Name:	**NO3**	*Injection Volume:*	**200.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**5.0000**
Recording Time:	**9/2/2011 14:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.12	n.a.	0.026	0.280	0.91	n.a.	BMB
2	3.65	Chloride	115.920	15.719	51.23	49.409	bMB
3	6.78	Nitrate	67.709	14.015	45.68	17.813	BMB
4	11.20	n.a.	1.823	0.667	2.18	n.a.	BMB
Total:			185.477	30.681	100.00	67.221	

11 CLSO4

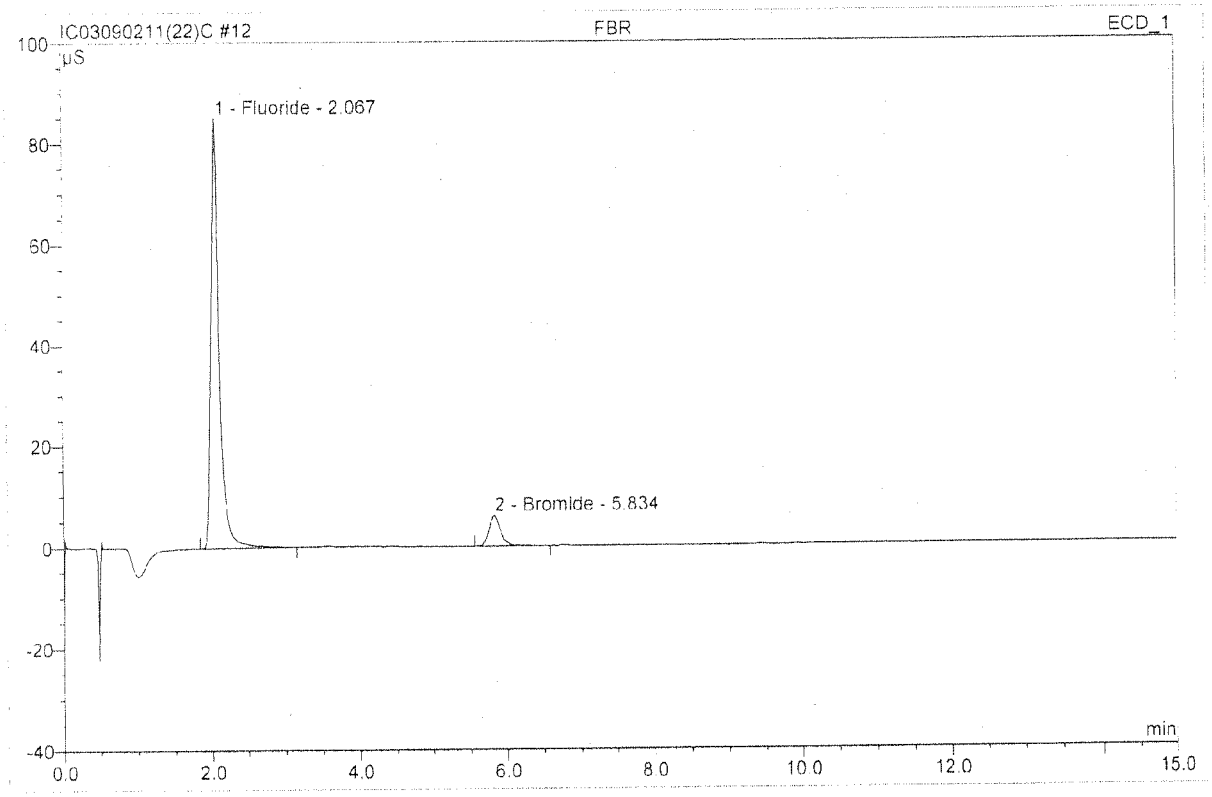
Sample Name:	**CLSO4**	*Injection Volume:*	**200.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 14:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.63	Chloride	61.104	7.690	62.03	4.834	BMB
2	12.58	Sulfate	13.655	4.707	37.97	4.720	BMB
Total:			74.760	12.397	100.00	9.554	

12 FBR

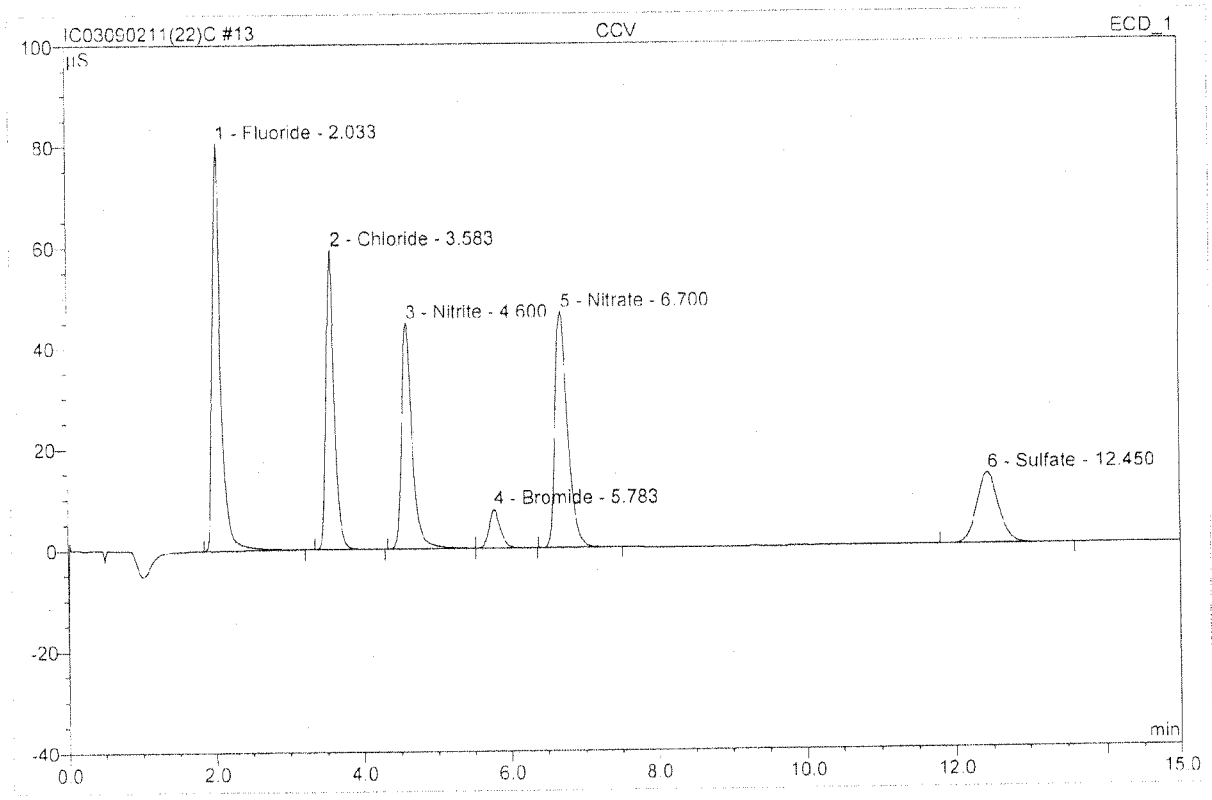
Sample Name:	**FBR**	*Injection Volume:*	**200.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**2.0000**
Recording Time:	**9/2/2011 15:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.07	Fluoride	85.145	11.468	91.42	?? 10.878	BMB
2	5.83	Bromide	5.942	1.076	8.58	?? 3.865	BMB
Total:			91.087	12.544	100.00	14.742	

13 CCV

Sample Name:	**CCV**	*Injection Volume:*	**200.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**epa300(22)**	*Bandwidth:*	**n.a.**
Quantif. Method:	**epa300**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/2/2011 17:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.03	Fluoride	80.643	10.744	25.92	5.095	BMB
2	3.58	Chloride	59.269	7.609	18.36	4.783	BMB
3	4.60	Nitrite	44.743	7.544	18.20	2.546	BMb
4	5.78	Bromide	7.631	1.352	3.26	2.428	bMB
5	6.70	Nitrate	46.774	9.428	22.75	2.397	BMB
6	12.45	Sulfate	13.950	4.765	11.50	4.778	BMB
Total:			253.010	41.442	100.00	22.027	

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project Name: Santa Susana Field Laboratory
Project No.:

Service Request: K1110227

Sample Name:	Lab Code:
Batch QC1D	K1110169-001D
Batch QC1S	K1110169-001S
CZBS0054S005 Soil	K1110227-001
Method Blank	K1110227-MB
Batch QC2S	K1110524-001S
Batch QC2SD	K1110524-001SD

Comments:

Approved By: _____ **Date:** 12/13/11

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K1110227
Project No.:	NA	**Date Collected:**	10/19/11
Project Name:	Santa Susana Field Laboratory	**Date Received:**	10/21/11
Matrix:	SOIL	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: CZBS0054S005 Soil **Lab Code:** K1110227-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6010B	9.6	0.4	2.0	12/02/11	12/05/11	16700		
Antimony	6020	0.192	0.009	5.0	12/02/11	12/06/11	0.230		N
Arsenic	6020	0.49	0.05	5.0	12/02/11	12/06/11	2.67		
Barium	6010B	0.48	0.06	2.0	12/02/11	12/05/11	123		
Boron	6010B	9.6	0.4	2.0	12/02/11	12/05/11	2.3	J	
Cadmium	6020	0.019	0.004	5.0	12/02/11	12/06/11	0.165		
Calcium	6010B	9.6	1.9	2.0	12/02/11	12/05/11	4490		
Chromium	6020	0.19	0.02	5.0	12/02/11	12/06/11	13.5		
Cobalt	6020	0.019	0.001	5.0	12/02/11	12/06/11	10.0		
Copper	6020	0.10	0.08	5.0	12/02/11	12/06/11	19.3		
Lead	6020	0.019	0.006	5.0	12/02/11	12/06/11	7.620		
Lithium	6010B	1.9	0.5	2.0	12/02/11	12/05/11	12.0		
Magnesium	6010B	3.8	0.3	2.0	12/02/11	12/05/11	5630		
Manganese	6010B	1.92	0.02	2.0	12/02/11	12/05/11	706		N
Mercury	7471A	0.020	0.002	1.0	11/04/11	11/04/11	0.013	J	
Molybdenum	6020	0.05	0.02	5.0	12/02/11	12/06/11	0.50		
Nickel	6020	0.19	0.02	5.0	12/02/11	12/06/11	15.5		
Phosphorus	6010B	38.4	2.9	2.0	12/02/11	12/05/11	779		
Potassium	6010B	76.9	19.2	2.0	12/02/11	12/05/11	1890		
Selenium	6020	1.0	0.2	5.0	12/02/11	12/06/11	1.0	J	
Silver	6020	0.019	0.008	5.0	12/02/11	12/06/11	0.043		
Sodium	6010B	38.4	3.8	2.0	12/02/11	12/05/11	565		
Strontium	6010B	0.19	0.02	2.0	12/02/11	12/05/11	46.2		
Thallium	6020	0.019	0.003	5.0	12/02/11	12/06/11	0.124		
Tin	6010B	1.9	0.7	2.0	12/02/11	12/05/11	2.8		
Titanium	6010B	0.19	0.06	2.0	12/02/11	12/05/11	521		
Vanadium	6020	0.19	0.02	5.0	12/02/11	12/06/11	45.1		
Zinc	6010B	1.9	0.3	2.0	12/02/11	12/05/11	78.7		
Zirconium	6020	0.1	0.1	5.0	12/02/11	12/06/11	9.13		

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

% Solids: 91.3

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K1110227
Project No.:	NA	**Date Collected:**	
Project Name:	Santa Susana Field Laboratory	**Date Received:**	
Matrix:	SOIL	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Method Blank **Lab Code:** K1110227-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6010B	10.0	0.4	2.0	12/02/11	12/05/11	0.7	J	
Antimony	6020	0.200	0.009	5.0	12/02/11	12/06/11	0.013	J	N
Arsenic	6020	0.50	0.05	5.0	12/02/11	12/06/11	0.05	U	
Barium	6010B	0.50	0.06	2.0	12/02/11	12/05/11	0.08	J	
Boron	6010B	10.0	0.4	2.0	12/02/11	12/05/11	0.4	U	
Cadmium	6020	0.020	0.004	5.0	12/02/11	12/06/11	0.009	J	
Calcium	6010B	10.0	2.0	2.0	12/02/11	12/05/11	2.4	J	
Chromium	6020	0.20	0.02	5.0	12/02/11	12/06/11	0.08	J	
Cobalt	6020	0.020	0.001	5.0	12/02/11	12/06/11	0.010	J	
Copper	6020	0.10	0.08	5.0	12/02/11	12/06/11	0.08	U	
Lead	6020	0.020	0.006	5.0	12/02/11	12/06/11	0.022		
Lithium	6010B	2.0	0.5	2.0	12/02/11	12/05/11	0.5	U	
Magnesium	6010B	4.0	0.3	2.0	12/02/11	12/05/11	0.3	U	
Manganese	6010B	2.00	0.02	2.0	12/02/11	12/05/11	0.04	J	N
Mercury	7471A	0.020	0.002	1.0	11/04/11	11/04/11	0.002	U	
Molybdenum	6020	0.05	0.02	5.0	12/02/11	12/06/11	0.03	J	
Nickel	6020	0.20	0.02	5.0	12/02/11	12/06/11	0.06	J	
Phosphorus	6010B	40.0	3.0	2.0	12/02/11	12/05/11	3.0	U	
Potassium	6010B	80.0	20.0	2.0	12/02/11	12/05/11	20.0	U	
Selenium	6020	1.0	0.2	5.0	12/02/11	12/06/11	0.2	U	
Silver	6020	0.020	0.008	5.0	12/02/11	12/06/11	0.008	U	
Sodium	6010B	40.0	4.0	2.0	12/02/11	12/05/11	4.0	U	
Strontium	6010B	0.20	0.02	2.0	12/02/11	12/05/11	0.02	U	
Thallium	6020	0.020	0.003	5.0	12/02/11	12/06/11	0.017	J	
Tin	6010B	2.0	0.7	2.0	12/02/11	12/05/11	0.7	U	
Titanium	6010B	0.20	0.06	2.0	12/02/11	12/05/11	0.06	U	
Vanadium	6020	0.20	0.02	5.0	12/02/11	12/06/11	0.02	U	
Zinc	6010B	2.0	0.3	2.0	12/02/11	12/05/11	0.3	U	
Zirconium	6020	0.1	0.1	5.0	12/02/11	12/06/11	0.1	U	

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

% Solids: 100.0

Comments:

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum	5000	5056	101	10000	10020	100	9899	99	6010B
Antimony	25.0	26.2	105	25.0	25.0	100	24.7	99	6020
Arsenic	25.0	25.8	103	25.0	24.9	100	23.1	92	6020
Barium	5000	4949	99	10000	9976	100	9816	98	6010B
Boron	2000	2048	102	250	254	102	257	103	6010B
Cadmium	12.5	13.0	104	25.0	24.7	99	23.4	94	6020
Calcium	12500	12290	98	10000	9983	100	9924	99	6010B
Chromium	10.0	10.2	102	25.0	24.6	98	23.4	94	6020
Cobalt	25.0	25.6	102	25.0	24.8	99	23.0	92	6020
Copper	12.5	12.8	102	25.0	24.8	99	23.8	95	6020
Lead	25.0	25.5	102	25.0	24.3	97	23.1	92	6020
Lithium	2000	1994	100	1000	1010	101	1001	100	6010B
Magnesium	12500	12520	100	10000	9978	100	9847	98	6010B
Magnesium	12500	12560	100	10000	10220	102	10320	103	6010B
Manganese	1250	1253	100	250	251	100	250	100	6010B
Mercury	5.00	5.10	102	5.00	5.10	102	5.00	100	7471A
Molybdenum	25.0	25.8	103	25.0	25.2	101	23.7	95	6020
Nickel	25.0	25.1	100	25.0	24.7	99	23.9	96	6020
Phosphorus	5000	5022	100	10000	9720	97	9747	97	6010B
Potassium	12500	12240	98	10000	9701	97	9695	97	6010B
Selenium	25.0	25.8	103	25.0	24.6	98	23.0	92	6020
Silver	12.5	12.9	103	25.0	24.9	100	24.9	100	6020
Sodium	12500	12840	103	10000	10110	101	9935	99	6010B
Strontium	2000	1968	98	1000	992	99	983	98	6010B
Thallium	25.0	25.7	103	25.0	24.5	98	23.3	93	6020
Tin	5000	5024	100	250	245	98	244	98	6010B
Titanium	2000	2004	100	250	250	100	250	100	6010B
Vanadium	25.0	25.9	104	25.0	24.7	99	22.5	90	6020
Zinc	1250	1220	98	250	243	97	242	97	6010B
Zirconium	25.0	25.8	103	25.0	24.7	99	23.2	93	6020

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum				10000	10170	102	10190	102	6010B
Arsenic				25.0	23.1	92			6020
Barium				10000	10060	101	10330	103	6010B
Boron				250	251	100	260	104	6010B
Cadmium				25.0	23.4	94			6020
Calcium				10000	10060	101	10310	103	6010B
Chromium				25.0	23.4	94			6020
Cobalt				25.0	23.0	92			6020
Copper				25.0	23.8	95			6020
Lead				25.0	23.3	93			6020
Lithium				1000	1022	102	1019	102	6010B
Magnesium				10000	9944	99	10080	101	6010B
Magnesium				10000	10570	106	10710	107	6010B
Manganese				250	249	100	255	102	6010B
Mercury				5.00	5.10	102	4.90	98	7471A
Molybdenum				25.0	23.5	94			6020
Nickel				25.0	24.0	96			6020
Phosphorus				10000	9945	99	10410	104	6010B
Potassium				10000	9689	97	10180	102	6010B
Selenium				25.0	22.7	91			6020
Sodium				10000	10080	101	10010	100	6010B
Strontium				1000	999	100	1021	102	6010B
Thallium				25.0	23.4	94			6020
Tin				250	238	95	247	99	6010B
Titanium				250	245	98	258	103	6010B
Vanadium				25.0	22.4	90			6020
Zinc				250	238	95	244	98	6010B
Zirconium				25.0	22.9	92			6020

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	25.0	25.8	103	25.0	25.3	101	24.4	98	6020
Silver	12.5	13.0	104	25.0	25.3	101	24.7	99	6020

Metals
- 2b -
CRDL STANDARD FOR AA AND ICP

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum				50.0	51.6	103		
Antimony				0.10	0.11	110		
Arsenic				1.00	1.00	100		
Barium				2.5			2.5	100
Boron				50.0	54.6	109		
Cadmium				0.04	0.046	115		
Calcium				50.0	55.8	112		
Chromium				0.4	0.35	88		
Cobalt				0.04	0.05	125		
Copper				0.2	0.22	110		
Lead				0.10	0.12	120		
Lithium				10.0	11.5	115		
Magnesium				20.0	19.3	96		
Manganese				5.0	5.3	106		
Mercury				0.20	0.21	105		
Molybdenum				0.1	0.10	100		
Nickel				0.4	0.45	112		
Phosphorus				200.0	200.5	100		
Potassium				400.0	428.5	107		
Selenium				2.0	1.94	97		
Silver				0.040	0.047	118		
Sodium				200.0	208.9	104		
Strontium				0.5			0.5	100
Thallium				0.04	0.041	102		
Tin				10.0			9.9	99
Titanium				1.0			0.8	80
Vanadium				0.4	0.33	82		
Zinc				10.0	10.1	101		
Zirconium				0.2	0.27	135		

Metals
- 2b -
CRDL STANDARD FOR AA AND ICP

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Antimony				0.10	0.13	130		
Silver				0.040	0.042	105		

Metals

BLANKS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Aluminum	2.0	U	2.0	U	-3.4	J	-2.1	J	6010B
Antimony	-0.030	J	-0.026	J	-0.097	J			6020
Arsenic	0.1	U	0.1	U	0.1	U	0.1	U	6020
Barium	0.90	J	0.40	J	0.40	J	0.50	J	6010B
Boron	2.0	U	2.2	J	2.4	J	2.0	U	6010B
Cadmium	0.008	U	0.008	U	0.008	U	0.008	U	6020
Calcium	10.0	U	10.0	U	10.0	U	10.3	J	6010B
Chromium	0.03	U	0.03	U	0.03	U	0.03	U	6020
Cobalt	0.004	J	0.002	U	0.009	J	0.004	J	6020
Copper	0.16	U	0.16	U	0.16	U	0.16	U	6020
Lead	0.012	U	0.012	U	0.014	J	0.012	U	6020
Lithium	2.5	U	2.5	U	2.5	U	2.5	U	6010B
Magnesium	1.5	U	1.5	U	1.5	U	1.5	U	6010B
Manganese	0.10	U	-0.10	J	-0.10	J	-0.20	J	6010B
Mercury	-0.05	J	-0.06	J	-0.16	J	-0.05	J	7471A
Molybdenum	0.04	J	0.04	U	0.04	U	0.04	U	6020
Nickel	0.04	U	0.04	U	0.06	J	0.04	U	6020
Phosphorus	15.0	U	15.0	U	15.0	U	15.0	U	6010B
Potassium	100	U	100	U	100	U	100	U	6010B
Selenium	0.4	U	0.4	U	0.4	U	0.4	U	6020
Silver	0.016	U	0.016	U	0.016	U			6020
Sodium	20.0	U	20.0	U	20.0	U	20.0	U	6010B
Strontium	0.10	U	0.10	U	0.10	J	0.10	U	6010B
Thallium	0.009	J	0.006	U	0.011	J	0.006	U	6020
Tin	3.5	U	3.5	U	3.5	U	3.5	U	6010B
Titanium	0.3	U	0.3	U	0.3	U	0.3	U	6010B
Vanadium	0.04	U	0.04	U	0.04	U	0.04	U	6020
Zinc	1.50	U	1.50	U	1.50	U	1.50	U	6010B
Zirconium	0.2	U	0.2	U	0.2	U	0.2	U	6020

Metals

BLANKS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Aluminum			2.0	U					6010B
Barium			0.50	J					6010B
Boron			3.0	J					6010B
Calcium			10.0	U					6010B
Lithium			2.5	U					6010B
Magnesium			1.5	U					6010B
Manganese			-0.10	J					6010B
Mercury			-0.10	J					7471A
Phosphorus			15.0	U					6010B
Potassium			100	U					6010B
Sodium			20.0	U					6010B
Strontium			0.10	U					6010B
Tin			3.5	U					6010B
Titanium			0.3	U					6010B
Zinc			1.50	U					6010B

Metals

BLANKS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Antimony	0.018	U	0.018	U	-0.046	J			6020
Silver	0.016	U	0.016	U	0.016	U			6020

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-MS-02 **ICS Source:** Inorganic Ventures

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0		0.2	0.6				
Arsenic	0.0	25.0	0.2	26.2	105			
Cadmium	0.0	25.0	0.1	23.7	95			
Chromium	0.0	50.0	0.4	57.0	114			
Cobalt	0.0	50.0	0.7	52.9	106			
Copper	0.0	50.0	0.6	49.5	99			
Lead	0.0		0.1	0.1				
Molybdenum	0.0		49.2	52.7				
Nickel	0.0	50.0	2.7	53.8	108			
Selenium	0.0	25.0	1.2	26.5	106			
Silver	0.0	12.5	0.0	12.0	96			
Thallium	0.0		0.0	0.0				
Vanadium	0.0	50.0	-0.1	54.8	110			
Zirconium	0.0		0.1	0.1				

80-120% control criteria is not applicable to interfering elements (Al,Ca,Fe,Mg).

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-AES-03 **ICS Source:** Inorganic Ventures

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Aluminum	500000	500000	463200	452900	91			
Barium		500	2	501	100			
Boron			3	13				
Calcium	500000	500000	478200	472200	94			
Lithium			10	11				
Magnesium	500000	500000	527000	512600	103			
Manganese		500	-3	478	96			
Phosphorus			-90	-98				
Potassium			53	29				
Sodium			49	50				
Strontium		1000	56	55	6			
Tin			2	2				
Titanium			2	1				
Zinc		1000	1	957	96			

80-120% control criteria is not applicable to interfering elements (Al,Ca,Fe,Mg).

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-MS-02 **ICS Source:** Inorganic Ventures

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0		0.2	0.5				
Silver	0.0	12.5	0.0	11.8	94			

80-120% control criteria is not applicable to interfering elements (Al,Ca,Fe,Mg).

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K1110227
Project No.:	NA	**Units:**	MG/KG
Project Name:	Santa Susana Field Laboratory	**Basis:**	DRY
Matrix:	SOIL	**% Solids:**	93.1

Sample Name: Batch QC1S **Lab Code:** K1110169-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	75 - 125	0.484		0.038		0.49	91.0		7471A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K1110227
Project No.:	NA	**Units:**	MG/KG
Project Name:	Santa Susana Field Laboratory	**Basis:**	DRY
Matrix:	SOIL	**% Solids:**	92.0

Sample Name: Batch QC2S **Lab Code:** K1110524-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum		17100		15100		391.70	510.6		6010B
Antimony	75 - 125	29.4		0.266		97.92	29.8	N	6020
Arsenic	75 - 125	50.7		5.79		49.86	90.1		6020
Barium	75 - 125	462		69.9		391.70	100.1		6010B
Boron	75 - 125	91.0		2.0	J	97.92	90.9		6010B
Cadmium	75 - 125	4.570		0.043		4.99	90.7		6020
Calcium	75 - 125	2470		1650		979.24	83.7		6010B
Chromium	75 - 125	41.4		16.9		19.94	122.9		6020
Cobalt	75 - 125	44.3		5.840		49.86	77.1		6020
Copper	75 - 125	31.2		8.86		24.93	89.6		6020
Lead	75 - 125	55.1		8.370		49.86	93.7		6020
Lithium	75 - 125	226		21.1		195.85	104.6		6010B
Magnesium		5350		4400		979.24	97.0		6010B
Manganese	75 - 125	323		239		97.92	85.8		6010B
Molybdenum	75 - 125	47.2		0.54		49.86	93.6		6020
Nickel	75 - 125	56.3		10.6		49.86	91.7		6020
Phosphorus	75 - 125	401		190		195.85	107.7		6010B
Potassium	75 - 125	2470		1550		979.24	94.0		6010B
Selenium	75 - 125	43.3		0.8	J	49.86	85.2		6020
Silver	75 - 125	8.900		0.047		9.79	90.4		6020
Sodium	75 - 125	1490		505		979.24	100.6		6010B
Strontium	75 - 125	198		14.0		195.85	93.9		6010B
Thallium	75 - 125	50.4		0.202		49.86	100.7		6020
Tin	75 - 125	202		2.0		195.85	102.1		6010B
Titanium	75 - 125	753		597		195.85	79.7		6010B
Vanadium	75 - 125	76.2		30.1		49.86	92.5		6020
Zinc	75 - 125	142		46.9		97.92	97.1		6010B
Zirconium	75 - 125	21.2		1.56		19.94	98.5		6020

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: URS Corporation
Service Request: K1110227
Project No.: NA
Units: MG/KG
Project Name: Santa Susana Field Laboratory
Basis: DRY
Matrix: SOIL
% Solids: 92.0

Sample Name: Batch QC2SD
Lab Code: K1110524-001SD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum		17300		15100		395.26	556.6		6010B
Antimony	75 - 125	27.4		0.266		98.81	27.5	N	6020
Arsenic	75 - 125	50.5		5.79		49.41	90.5		6020
Barium	75 - 125	475		69.9		395.26	102.5		6010B
Boron	75 - 125	92.7		2.0	J	98.81	91.8		6010B
Cadmium	75 - 125	4.440		0.043		4.94	89.0		6020
Calcium	75 - 125	2500		1650		988.14	86.0		6010B
Chromium	75 - 125	40.6		16.9		19.76	119.9		6020
Cobalt	75 - 125	45.8		5.840		49.41	80.9		6020
Copper	75 - 125	31.4		8.86		24.70	91.3		6020
Lead	75 - 125	57.1		8.370		49.41	98.6		6020
Lithium	75 - 125	230		21.1		197.63	105.7		6010B
Magnesium		5210		4400		988.14	82.0		6010B
Manganese	75 - 125	296		239		98.81	57.7	N	6010B
Molybdenum	75 - 125	46.5		0.54		49.41	93.0		6020
Nickel	75 - 125	56.2		10.6		49.41	92.3		6020
Phosphorus	75 - 125	358		190		197.63	85.0		6010B
Potassium	75 - 125	2400		1550		988.14	86.0		6010B
Selenium	75 - 125	42.0		0.8	J	49.41	83.4		6020
Silver	75 - 125	8.740		0.047		9.88	88.0		6020
Sodium	75 - 125	1480		505		988.14	98.7		6010B
Strontium	75 - 125	203		14.0		197.63	95.6		6010B
Thallium	75 - 125	49.0		0.202		49.41	98.8		6020
Tin	75 - 125	193		2.0		197.63	96.6		6010B
Titanium	75 - 125	762		597		197.63	83.5		6010B
Vanadium	75 - 125	77.1		30.1		49.41	95.1		6020
Zinc	75 - 125	137		46.9		98.81	91.2		6010B
Zirconium	75 - 125	20.3		1.56		19.76	94.8		6020

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: URS Corporation
Service Request: K1110227
Project No.: NA
Units: UG/L
Project Name: Santa Susana Field Laboratory
Basis: DRY
Matrix: WATER

Sample Name: Batch QC1A
Lab Code: K1110169-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	85 - 115	5.06		0.40		5.00	93		7471A

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: URS Corporation
Service Request: K1110227
Project No.: NA
Units: UG/L
Project Name: Santa Susana Field Laboratory
Basis: DRY
Matrix: WATER

Sample Name: Batch QC2A
Lab Code: K1110524-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	75 - 125	48.48		0.54		50.0	96		6020
Arsenic	75 - 125	58.7		11.8		50.0	94		6020
Barium	75 - 125	4997.0		353.7		5000	93		6010B
Boron	75 - 125	4810.0		10.1	J	5000	96		6010B
Cadmium	75 - 125	47.390		0.087		50.0	95		6020
Calcium	75 - 125	19720.0		8363.0		12500	91		6010B
Chromium	75 - 125	82.36		34.56		50.0	96		6020
Cobalt	75 - 125	55.760		11.920		50.0	88		6020
Copper	75 - 125	62.90		18.10		50.0	90		6020
Lead	75 - 125	62.21		17.09		50.0	90		6020
Lithium	75 - 125	5074.0		106.7		5000	99		6010B
Magnesium	75 - 125	34520.0		22240.0		12500	98		6010B
Manganese	75 - 125	2356.00		1207.00		1250	92		6010B
Molybdenum	75 - 125	53.15		1.10		50.0	104		6020
Nickel	75 - 125	66.58		21.67		50.0	90		6020
Phosphorus	75 - 125	5535.0		961.5		5000	91		6010B
Potassium	75 - 125	19740.0		7821.0		12500	95		6010B
Selenium	75 - 125	48.6		1.5	J	50.0	94		6020
Silver	75 - 125	10.290		0.095		10.0	102		6020
Sodium	75 - 125	15130.0		2557.0		12500	101		6010B
Strontium	70 - 130	4563.90		70.66		5000	90		6010B
Thallium	75 - 125	48.810		0.412		50.0	97		6020
Tin	75 - 125	4770.0		10.0		5000	95		6010B
Titanium	75 - 125	7440.0		3020.0		5000	88		6010B
Vanadium	75 - 125	99.18		61.56		50.0	75		6020
Zinc	75 - 125	1410.00		237.30		1250	94		6010B
Zirconium	75 - 125	53.05		3.19		50.0	100		6020

Metals

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DUPLICATES

Client:	URS Corporation	**Service Request:**	K1110227
Project No.:	NA	**Units:**	MG/KG
Project Name:	Santa Susana Field Laboratory	**Basis:**	DRY
Matrix:	SOIL	**% Solids:**	93.1

Sample Name: Batch QC1D **Lab Code:** K1110169-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.038		0.002	U	200.0		7471A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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DUPLICATES

Client: URS Corporation
Service Request: K1110227
Project No.: NA
Units: MG/KG
Project Name: Santa Susana Field Laboratory
Basis: DRY
Matrix: SOIL
% Solids: 92.0

Sample Name: Batch QC2SD
Lab Code: K1110524-001SD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum	20	17100		17300		1.2		6010B
Antimony	20	29.4		27.4		7.0		6020
Arsenic	20	50.7		50.5		0.4		6020
Barium	20	462		475		2.8		6010B
Boron	20	91.0		92.7		1.9		6010B
Cadmium	20	4.570		4.440		2.9		6020
Calcium	20	2470		2500		1.2		6010B
Chromium	20	41.4		40.6		2.0		6020
Cobalt	20	44.3		45.8		3.3		6020
Copper	20	31.2		31.4		0.6		6020
Lead	20	55.1		57.1		3.6		6020
Lithium	20	226		230		1.8		6010B
Magnesium	20	5350		5210		2.7		6010B
Manganese	20	323		296		8.7		6010B
Molybdenum	20	47.2		46.5		1.5		6020
Nickel	20	56.3		56.2		0.2		6020
Phosphorus	20	401		358		11.3		6010B
Potassium	20	2470		2400		2.9		6010B
Selenium	20	43.3		42.0		3.0		6020
Silver	20	8.900		8.740		1.8		6020
Sodium	20	1490		1480		0.7		6010B
Strontium	20	198		203		2.5		6010B
Thallium	20	50.4		49.0		2.8		6020
Tin	20	202		193		4.6		6010B
Titanium	20	753		762		1.2		6010B
Vanadium	20	76.2		77.1		1.2		6020
Zinc	20	142		137		3.6		6010B
Zirconium	20	21.2		20.3		4.3		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:** ERA D065540

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Aluminum	10000	10300	103.0					
Antimony	5000	5060	101.2					
Arsenic	5000	4920	98.4					
Barium	10000	10500	105.0					
Boron	1000	1020	102.0					
Cadmium	2500	2460	98.4					
Calcium	25000	26100	104.4					
Chromium	1000	912	91.2					
Cobalt	2500	2330	93.2					
Copper	1250	1200	96.0					
Lead	5000	4660	93.2					
Lithium	2000	2130	106.5					
Magnesium	25000	25800	103.2					
Manganese	2500	2620	104.8					
Mercury				6.8	6.08		71	128	89.4
Molybdenum	1000	821	82.1					
Nickel	2500	2360	94.4					
Phosphorus	2000	2040	102.0					
Potassium	25000	25000	100.0					
Selenium	5000	5260	105.2					
Silver	1250	1220	97.6					
Sodium	25000	26400	105.6					
Strontium	2000	2090	104.5					
Thallium	5000	4690	93.8					
Tin	2000	2110	105.5					
Titanium	2000	2100	105.0					
Vanadium	2500	2320	92.8					
Zinc	2500	2490	99.6					
Zirconium	1000	821	82.1					

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:** ERA D065540

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Aluminum	10000	10700	107.0					
Antimony	5000	5500	110.0					
Arsenic	5000	4950	99.0					
Barium	10000	11000	110.0					
Boron	1000	1080	108.0					
Cadmium	2500	2470	98.8					
Calcium	25000	27300	109.2					
Chromium	1000	920	92.0					
Cobalt	2500	2320	92.8					
Copper	1250	1200	96.0					
Lead	5000	4640	92.8					
Lithium	2000	2320	116.0					
Magnesium	25000	26600	106.4					
Manganese	2500	2740	109.6					
Mercury				6.8	5.60		71 128	82.4
Molybdenum	1000	849	84.9					
Nickel	2500	2370	94.8					
Phosphorus	2000	2160	108.0					
Potassium	25000	25800	103.2					
Selenium	5000	5260	105.2					
Silver	1250	1280	102.4					
Sodium	25000	27300	109.2					
Strontium	2000	2180	109.0					
Thallium	5000	4700	94.0					
Tin	2000	2250	112.5					
Titanium	2000	2220	111.0					
Vanadium	2500	2290	91.6					
Zinc	2500	2610	104.4					
Zirconium	1000	865	86.5					

Metals

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ICP SERIAL DILUTIONS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Units:** UG/L

Project Name: Santa Susana Field Laboratory

Sample Name: Batch QC2L **Lab Code:** K1110524-001L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	76270.0		74450.0		2.4		P
Antimony	0.539		0.653	J	21		MS
Arsenic	11.8		12.2		3		MS
Barium	353.7		367.0		3.8		P
Boron	10.1	J	18.5	J	83.2		P
Cadmium	0.087		0.103	J	18		MS
Calcium	8363.0		8710.0		4.1		P
Chromium	34.56		32.08		7		MS
Cobalt	11.920		12.510		5		MS
Copper	18.10		16.84		7		MS
Lead	17.090		16.505		3		MS
Lithium	106.7		108.0		1.2		P
Magnesium	22240.0		21925.0		1.4		P
Manganese	1207.00		1243.50		3.0		P
Molybdenum	1.10		0.90		18		MS
Nickel	21.67		19.85		8		MS
Phosphorus	961.5		964.0	J	0.3		P
Potassium	7821.0		7755.0		0.8		P
Selenium	1.5	J	2.0	U	100.0		MS
Silver	0.095		0.096	J	1		MS
Sodium	2557.0		2433.5		4.8		P
Strontium	70.66		73.25		3.7		P
Thallium	0.412		0.434		5		MS
Tin	10.0		17.5	U	100.0		P
Titanium	3020.0		3008.0		0.4		P
Vanadium	61.56		58.25		5		MS
Zinc	237.30		234.00		1.4		P
Zirconium	3.2		2.5		22		MS

Metals

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DETECTION LIMITS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.7		0.20	0.02	CV

Comments:

Metals

- 10 -

DETECTION LIMITS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Aluminum	394.4		50.0	2.0	P
Barium	455.4		2.5	0.30	P
Boron	249.6		50.0	2.0	P
Calcium	315.8		50.0	10.0	P
Lithium	670.7		10.0	2.5	P
Magnesium	279.0		40.0	30.0	P
Manganese	257.6		10.00	0.10	P
Phosphorus	214.9		200.0	15.0	P
Potassium	766.5		400.0	100	P
Sodium	589.5		200	20.0	P
Strontium	407.7		1.000	0.10	P
Tin	189.9		10.0	3.5	P
Titanium	336.1		1.0	0.3	P
Zinc	206.2		10.00	1.50	P

Comments:

Metals

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DETECTION LIMITS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP/ICP-MS ID #: K-ICP-MS-02

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Antimony	123		0.400	0.018	MS
Arsenic	75		1.0	0.1	MS
Cadmium	111		0.040	0.008	MS
Chromium	52		0.40	0.03	MS
Cobalt	59		0.040	0.002	MS
Copper	65		0.20	0.16	MS
Lead	208		0.04	0.01	MS
Molybdenum	98		0.10	0.04	MS
Nickel	60		0.40	0.04	MS
Selenium	82		2.0	0.4	MS
Silver	109		0.040	0.016	MS
Thallium	205		0.040	0.006	MS
Vanadium	51		0.40	0.04	MS
Zirconium	90		0	0.20	MS

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-AES-03

Analyte	Wave-length (nm)	Interelement Correction Factors for: Al	Ca	Fe	Mg	Co
Aluminum	394.401	0.0000000	0.0000880	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000290	0.0000000	-0.0001420	0.0000000	0.0000000
Arsenic	189.042	0.0000220	0.0000000	-0.0000580	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000100	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	-0.0002330	0.0000000	0.0016240
Cadmium	226.502	0.0000000	0.0000000	0.0000590	0.0000000	0.0000150
Calcium	393.366	0.0000000	0.0000000	0.0000230	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	230.786	0.0000000	0.0000000	-0.0000030	0.0000000	0.0000000
Copper	224.7	0.0000000	0.0000000	0.0001620	0.0000000	0.0006220
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000940	0.0000000	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000130	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0001940
Phosphorus	214.914	-0.0005540	0.0000000	0.0006550	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	-0.0001120	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0014540
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000210	0.0000000	0.0000000	0.0000320
Vanadium	292.402	0.0000000	0.0000000	-0.0000020	0.0000000	0.0000000
Zinc	213.856	0.0000000	0.0000000	0.0001010	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-AES-03

Analyte	Wave-length (nm)	Interelement Correction Factors for: Cr	Mn	Mo	Ni	P
Aluminum	394.401	0.0000000	0.0000000	0.0004350	0.0003100	0.0000000
Antimony	206.833	0.0173600	-0.0001330	0.0011910	0.0000000	0.0000000
Arsenic	189.042	0.0003470	-0.0001550	0.0005480	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	-0.0000300	-0.0001890	-0.0000190	0.0000000
Boron	249.678	0.0004530	0.0000000	-0.0008670	0.0000000	0.0000000
Cadmium	226.502	0.0000410	0.0000000	-0.0000280	-0.0000170	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0001390	0.0000680	0.0000000	0.0000280
Cobalt	230.786	-0.0000120	0.0000380	0.0011280	-0.0001970	0.0000000
Copper	224.7	0.0000000	0.0000240	0.0025520	-0.0024670	0.0000000
Iron	259.94	0.0000000	0.0000000	-0.0002400	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0001340	-0.0010800	0.0001780	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	-0.0014420	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	-0.0000110	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	-0.0000270	0.0000000	-0.0000310	0.0000000
Nickel	231.604	-0.0000240	0.0000000	-0.0000480	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	-0.0004110	0.0085820	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0006630	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0192220	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000390	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000080	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0002570	0.0008680	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000410	0.0001300	0.0000000
Vanadium	292.402	0.0000000	-0.0027450	-0.0002030	0.0000000	0.0000000
Zinc	213.856	0.0000000	0.0000000	-0.0001050	0.0057510	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-AES-03

Analyte	Wave-length (nm)	Interelement Correction Factors for: Si	Ti	V		
Aluminum	394.401	0.0000000	0.0000000	0.0005300		
Antimony	206.833	-0.0000210	0.0004780	0.0000000		
Arsenic	189.042	0.0000000	0.0000000	0.0000000		
Barium	455.403	0.0000000	0.0000000	0.0000280		
Beryllium	234.861	0.0000000	0.0000000	0.0000000		
Boron	249.678	0.0000000	0.0000000	-0.0001270		
Cadmium	226.502	-0.0000020	0.0000000	0.0000000		
Calcium	393.366	0.0000000	0.0000000	0.0000000		
Chromium	267.716	0.0000000	0.0000590	-0.0000760		
Cobalt	230.786	0.0000000	0.0000000	0.0000000		
Copper	224.7	-0.0000060	0.0004820	-0.0000300		
Iron	259.94	0.0000000	0.0000000	0.0000000		
Lead	220.353	0.0002440	0.0000000	0.0000000		
Lithium	670.784	0.0000000	0.0000000	0.0000000		
Magnesium	285.213	0.0000000	0.0000000	0.0000000		
Manganese	257.61	0.0000000	0.0000000	0.0000000		
Molybdenum	202.03	0.0000000	0.0000000	0.0000000		
Nickel	231.604	0.0000000	0.0000000	0.0000000		
Phosphorus	214.914	0.0000000	0.0000000	0.0000000		
Potassium	766.491	0.0000000	0.0000000	0.0000000		
Selenium	196.0	0.0000000	0.0000000	0.0000000		
Silicon	251.611	0.0000000	0.0000000	0.0000000		
Silver	328.068	0.0000000	-0.0000780	0.0000910		
Sodium	589.592	0.0000000	0.0000000	0.0000000		
Strontium	407.771	0.0000000	0.0000000	0.0000000		
Thallium	190.856	0.0000000	-0.0008960	-0.0007350		
Tin	189.989	0.0000000	-0.0007490	0.0000000		
Titanium	336.121	0.0000000	0.0000000	0.0000000		
Vanadium	292.402	0.0000000	0.0009490	0.0000000		
Zinc	213.856	0.0000000	-0.0003230	0.0000000		

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-AES-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum	15.000	900000	6010B
Barium	15.000	45000	6010B
Boron	15.000	45000	6010B
Calcium	15.000	900000	6010B
Lithium	15.000	90000	6010B
Magnesium	15.000	540000	6010B
Manganese	15.000	9000	6010B
Phosphorus	15.000	450000	6010B
Potassium	15.000	900000	6010B
Sodium	15.000	900000	6010B
Strontium	15.000	22500	6010B
Tin	15.000	22500	6010B
Titanium	15.000	22500	6010B
Zinc	15.000	18000	6010B

Comments: _____

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

ICP ID Number: K-ICP-MS-02

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	900	6020
Arsenic	15.000	900	6020
Cadmium	15.000	900	6020
Chromium	15.000	900	6020
Cobalt	15.000	900	6020
Copper	15.000	900	6020
Lead	15.000	900	6020
Molybdenum	15.000	900	6020
Nickel	15.000	900	6020
Selenium	15.000	900	6020
Silver	15.000	270	6020
Thallium	15.000	450	6020
Vanadium	15.000	900	6020
Zirconium	15.000	200	6020

Comments: _____

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Method: CV

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K1110169-001D	11/04/11	0.57	50.0
K1110169-001S	11/04/11	0.55	50.0
K1110227-001	11/04/11	0.55	50.0
K1110227-MB	11/04/11	0.50	50.0
LCSS1	11/04/11	0.30	50.0
LCSS2	11/04/11	0.29	50.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Method: P

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K1110227-001	12/02/11	1.14	100.0
K1110227-MB	12/02/11	1.00	100.0
K1110524-001S	12/02/11	1.11	100.0
K1110524-001SD	12/02/11	1.10	100.0
LCSW1	12/02/11	100.0	100.0
LCSW2	12/02/11	100.0	100.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Method: MS

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K1110227-001	12/02/11	1.13	100.0
K1110227-MB	12/02/11	1.00	100.0
K1110524-001S	12/02/11	1.09	100.0
K1110524-001SD	12/02/11	1.10	100.0
LCSW1	12/02/11	100.0	100.0
LCSW2	12/02/11	100.0	100.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA

Project Name: Santa Susana Field Laboratory

Method: MS

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K1110227-001	12/02/11	1.14	100.0
K1110227-MB	12/02/11	1.00	100.0
K1110524-001S	12/02/11	1.11	100.0
K1110524-001SD	12/02/11	1.10	100.0
LCSW1	12/02/11	100.0	100.0
LCSW2	12/02/11	100.0	100.0

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 110411A HG2

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-CVAA-02 **Method:** CV

Start Date: 11/04/11 **End Date:** 11/04/11

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Blank	1	14:00																X									
Standard #1	1	14:02																X									
Standard #2	1	14:04																X									
Standard #3	1	14:05																X									
Standard #4	1	14:07																X									
Standard #5	1	14:09																X									
ICV1	1	14:10																X									
ICB1	1	14:12																X									
CRA1	1	14:13																X									
CCV1	1	14:15																X									
CCB1	1	14:17																X									
K1110227-MB	1	14:18																X									
ZLCSW LL	1	14:20																										
LCSS1	10	14:21																X									
LCSS2	10	14:23																X									
ZZZZZZ	1	14:25																										
K1110169-001A	1	14:26																X									
K1110169-001D	1	14:28																X									
K1110169-001S	1	14:30																X									
ZZZZZZ	1	14:31																										
ZZZZZZ	1	14:33																										
CCV2	1	14:34																X									
CCB2	1	14:36																X									
ZZZZZZ	1	14:38																										
ZZZZZZ	1	14:39																										
ZZZZZZ	1	14:41																										
CCV3	1	14:47																X									
CCB3	1	14:49																X									
ZZZZZZ	1	14:51																										
K1110227-001	1	14:53																X									
ZZZZZZ	1	14:54																										
ZZZZZZ	1	14:56																										

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 110411A HG2

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-CVAA-02 **Method:** CV

Start Date: 11/04/11 **End Date:** 11/04/11

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1	14:58																										
ZZZZZZ	1	14:59																										
ZZZZZZ	1	15:01																										
ZZZZZZ	1	15:02																										
ZZZZZZ	1	15:04																										
ZZZZZZ	1	15:06																										
CCV4	1	15:07																X										
CCB4	1	15:09																X										

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120511AICP03

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-AES-03 **Method:** P

Start Date: 12/05/11 **End Date:** 12/05/11

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN	
BLK	1	13:52					X			X						X	X			X			X			X		*
STD A	1	13:55															X									X		*
STD B	1	13:57		X			X			X						X				X			X					*
ICV1	1	14:00																										*
ICV1	1	14:03		X			X			X						X	X			X			X			X		*
ICB1	1	14:05		X			X			X						X	X			X			X			X		*
CRA1	1	14:07		X						X						X	X			X			X			X		*
CRA1	1	14:10					X																					*
ZZZZZZ	1	14:12																										
ZZZZZZ	1	14:16																										
CRA1	1	14:19																										*
CCV1	1	14:25		X			X			X						X				X			X					*
ZZZZZZ	1	14:31																										
CCV1	1	14:35															X									X		*
CCB1	1	14:40		X			X			X						X	X			X			X			X		*
ICS-A1	1	14:44		X			X			X						X	X			X			X			X		*
ICS-AB1	1	14:47		X			X			X						X	X			X			X			X		*
ZZZZZZ	1	14:52																										
CCV2	1	14:55		X			X			X						X				X			X					*
CCV2	1	14:58															X									X		*
CCB2	1	15:04		X			X			X						X	X			X			X			X		*
K1110227-MB	2	15:06		X			X			X						X	X			X			X			X		*
ZLL LCSW	2	15:09																										
LCSW1	2	15:11		X			X			X						X	X			X			X			X		*
LCSW2	2	15:13		X			X			X						X	X			X			X			X		*
ZZZZZZ	2	15:16																										
ZZZZZZ	2	15:18																										
ZZZZZZ	2	15:20																										
ZZZZZZ	2	15:23																										
K1110227-001	2	15:25		X			X			X						X	X			X			X			X		*
ZZZZZZ	2	15:28																										
CCV3	1	15:32		X			X			X						X				X			X					*

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120511AICP03

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-AES-03 **Method:** P

Start Date: 12/05/11 **End Date:** 12/05/11

Sample No.	D/F	Time	% R	Analytes																									
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN	
CCV3	1	15:34															X									X		*
CCB3	1	15:37		X			X			X						X	X			X			X			X		*
ZZZZZZ	2	15:39																										
ZZZZZZ	2	15:41																										
ZZZZZZ	2	15:44																										
K1110524-001L	10	15:46		X			X			X						X	X			X			X			X		*
K1110524-001A	2	15:49					X			X						X	X			X			X			X		*
K1110524-001S	2	15:51		X			X			X						X	X			X			X			X		*
K1110524-001SD	2	15:53		X			X			X						X	X			X			X			X		*
ZZZZZZ	2	15:56																										
ZZZZZZ	2	15:58																										
ZZZZZZ	2	16:01																										
CCV4	1	16:03		X			X			X						X				X			X					*
CCV4	1	16:06															X									X		*
CCB4	1	16:08		X			X			X						X	X			X			X			X		*

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120511AICP03

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-AES-03 **Method:** P

Start Date: 12/05/11 **End Date:** 12/05/11

| Sample No. | D/F | Time | % R | Analytes | | |

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120511AICP03

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-AES-03 **Method:** P

Start Date: 12/05/11 **End Date:** 12/05/11

| Sample No. | D/F | Time | % R | Analytes | | |

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120611AMS02

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 12/06/11 **End Date:** 12/06/11

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN	
Cal. Blk	1	07:54				X			X		X		X		X				X		X			X				*
Cal. Stn	1	07:58				X			X		X		X		X				X		X			X				*
ICV1	1	08:02				X			X		X		X		X				X		X			X				*
CCV1	1	08:07				X			X		X		X		X				X		X			X				*
ICB1	1	08:14				X			X		X		X		X				X		X			X				*
CCB1	1	08:18				X			X		X		X		X				X		X			X				*
CRA1	1	08:27				X			X		X		X		X				X		X			X				*
ICS-A1	1	08:32				X			X		X		X		X				X		X			X				*
ICS-AB1	1	08:36				X			X		X		X		X				X		X			X				*
K1110227-MB	5	08:45				X			X		X		X		X				X		X			X				*
ZLLLCSW	5	08:54																												
LCSW1	100	08:59				X			X		X		X		X				X		X			X				*
LCSW2	100	09:06				X			X		X		X		X				X		X			X				*
ZZZZZZ	5	09:15																												
K1110524-001L	25	09:21				X			X		X		X		X				X		X			X				*
K1110524-001A	5	09:26				X			X		X		X		X				X		X			X				*
K1110524-001A	5	09:38																												
K1110524-001S	5	09:43				X			X		X		X		X				X		X			X				*
K1110524-001SD	5	09:47				X			X		X		X		X				X		X			X				*
CCV2	1	09:52				X			X		X		X		X				X		X			X				*
CCB2	1	10:02				X			X		X		X		X				X		X			X				*
ZZZZZZ	5	10:07																												
ZZZZZZ	5	10:11																												
ZZZZZZ	5	10:16																												
ZZZZZZ	5	10:20																												
ZZZZZZ	5	10:25																												
K1110227-001	5	10:29				X			X		X		X		X				X		X			X				*
ZZZZZZ	5	10:33																												
ZZZZZZ	5	10:38																												
ZZZZZZ	5	10:42																												
CCV3	1	10:48				X			X		X		X		X				X		X			X				*
CCB3	1	10:55				X			X		X		X		X				X		X			X				*

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Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120611AMS02

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 12/06/11 **End Date:** 12/06/11

| Sample No. | D/F | Time | % R | Analytes | | |

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120611AVCo

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 12/06/11 **End Date:** 12/06/11

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1	07:54										X													X		
Cal. Stn	1	07:58										X													X		
ICV1	1	08:02										X													X		
CCV1	1	08:07										X													X		
ICB1	1	08:14										X													X		
CCB1	1	08:18										X													X		
CRA1	1	08:27										X													X		
ICS-A1	1	08:32										X													X		
ICS-AB1	1	08:36										X													X		
K1110227-MB	5	08:45										X													X		
ZLLLCSW	5	08:54																									
LCSW1	100	08:59										X													X		
LCSW2	100	09:06										X													X		
ZZZZZZ	5	09:15																									
K1110524-001L	25	09:21										X													X		
K1110524-001A	5	09:26										X													X		
ZZZZZZ	5	09:38																									
K1110524-001S	5	09:43										X													X		
K1110524-001SD	5	09:47										X													X		
CCV2	1	09:52										X													X		
CCB2	1	10:02										X													X		
ZZZZZZ	5	10:07																									
ZZZZZZ	5	10:11																									
ZZZZZZ	5	10:16																									
ZZZZZZ	5	10:20																									
ZZZZZZ	5	10:25																									
K1110227-001	5	10:29										X													X		
ZZZZZZ	5	10:33																									
ZZZZZZ	5	10:38																									
ZZZZZZ	5	10:42																									
CCV3	1	10:48										X													X		
CCB3	1	10:55										X													X		

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Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120611BMS02

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 12/06/11 **End Date:** 12/06/11

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1	12:32			X																X					
Cal. Stn	1	12:34			X																X					
ICV1	1	12:36			X																X					
CCV1	1	12:39			X																X					
ICB1	1	12:43			X																X					
CCB1	1	12:45			X																X					
CRA1	1	12:47			X																X					
ICS-A1	1	12:49			X																X					
ICS-AB1	1	12:52			X																X					
K1110227-MB	5	12:59			X																X					
ZLLLCSW	5	13:01																								
LCSW1	100	13:03			X																X					
LCSW2	100	13:06			X																X					
ZZZZZZ	5	13:10																								
K1110524-001L	25	13:13			X																X					
ZZZZZZ	5	13:16																								
K1110524-001S	5	13:19			X																X					
K1110524-001SD	5	13:22			X																X					
K1110524-001A	1	13:27			X																X					
CCV2	1	13:29			X																X					
CCB2	1	13:33			X																X					

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K1110227

Project No.: NA **Run Number:** 120611CMS02

Project Name: Santa Susana Field Laboratory

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 12/06/11 **End Date:** 12/06/11

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1	13:36			X																X					
Cal. Stn	1	13:38			X																X					
ICV2	1	13:40			X																X					
CCV1	1	13:44			X																X					
ICB2	1	13:48			X																X					
CCB1	1	13:51			X																X					
CRA2	1	13:54			X																X					
ICS-A2	1	13:57			X																X					
ICS-AB2	1	14:00			X																X					
ZZZZZZ	1	14:03																								
ZZZZZZ	5	14:05																								
ZZZZZZ	5	14:08																								
ZZZZZZ	5	14:11																								
ZZZZZZ	5	14:15																								
ZZZZZZ	5	14:18																								
K1110227-001	5	14:21			X																X					
ZZZZZZ	5	14:24																								
ZZZZZZ	5	14:27																								
ZZZZZZ	5	14:30																								
CCV2	1	14:33			X																X					
CCB2	1	14:36			X																X					

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: CASK Case No.: NRAS No. SDG NO.: K1110227

ICP-MS Instrument ID: K-ICP-MS-02 Start Date: 12/06/2011 End Date: 12/06/2011

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Rh_103	Q	Element In_115	Q	Element Lu_175	Q	Element	Q	Element	Q
Cal. Blk	Cal. Blk	0754	100		100		100		100					
Cal. Stn	Cal. Stn	0758	100		101		101		100					
ICV1	ICV1 HNO3	0802	98		98		97		98					
CCV1	CCV1	0807	99		99		98		99					
ICB1	ICB1	0814	102		98		98		99					
CCB1	CCB1	0818	103		100		99		100					
CRA1	LLICV	0827	103		101		97		94					
ICS-A1	ICSA	0832	86		75		76		79					
ICS-AB1	ICSAB	0836	84		75		76		78					
K1110227-MB	Method Blank	0845	100		95		92		91					
ZZZZZZ	ZZZZZZ	0854												
LCSW1	LCSW	0859	97		102		98		98					
LCSW2	DLCSW	0906	98		102		100		98					
ZZZZZZ	ZZZZZZ	0915												
K1110524-001L	Batch QC2L	0921	98		97		94		94					
K1110524-001A	Batch QC2A	0926	97		93		95		95					
K1110524-001A	Batch QC2A	0938	102		92		92		93					
K1110524-001S	Batch QC2S	0943	100		92		93		92					
K1110524-001SD	Batch QC2SD	0947	100		89		90		91					
CCV2	CCV2	0952	103		99		96		95					
CCB2	CCB2	1002	103		98		95		92					
ZZZZZZ	ZZZZZZ	1007												
ZZZZZZ	ZZZZZZ	1011												
ZZZZZZ	ZZZZZZ	1016												
ZZZZZZ	ZZZZZZ	1020												
ZZZZZZ	ZZZZZZ	1025												
K1110227-001	CZBS0054S005	1029	94		82		82		86					
ZZZZZZ	ZZZZZZ	1033												
ZZZZZZ	ZZZZZZ	1038												
ZZZZZZ	ZZZZZZ	1042												
CCV3	CCV3	1048	98		97		94		92					
CCB3	CCB3	1055	100		95		92		90					

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Columbia Analytical Services Contract: _____

Lab Code: CASK Case No.: _____ NRAS No. _____ SDG NO.: K1110227

ICP-MS Instrument ID: K-ICP-MS-02 Start Date: 12/06/2011 End Date: 12/06/2011

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Sc_45	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
Cal. Blk	Cal. Blk	0754	100											
Cal. Stn	Cal. Stn	0758	99											
ICV1	ICV1 HNO3	0802	95											
CCV1	CCV1	0807	97											
ICB1	ICB1	0814	99											
CCB1	CCB1	0818	101											
CRA1	LLICV	0827	103											
ICS-A1	ICSA	0832	85											
ICS-AB1	ICSAB	0836	83											
K1110227-MB	Method Blank	0845	96											
ZZZZZZ	ZZZZZZ	0854												
LCSW1	LCSW	0859	100											
LCSW2	DLCSW	0906	101											
ZZZZZZ	ZZZZZZ	0915												
K1110524-001L	Batch QC2L	0921	102											
K1110524-001A	Batch QC2A	0926	108											
ZZZZZZ	ZZZZZZ	0938												
K1110524-001S	Batch QC2S	0943	112											
K1110524-001SD	Batch QC2SD	0947	108											
CCV2	CCV2	0952	101											
CCB2	CCB2	1002	104											
ZZZZZZ	ZZZZZZ	1007												
ZZZZZZ	ZZZZZZ	1011												
ZZZZZZ	ZZZZZZ	1016												
ZZZZZZ	ZZZZZZ	1020												
ZZZZZZ	ZZZZZZ	1025												
K1110227-001	CZBS0054S005	1029	118											
ZZZZZZ	ZZZZZZ	1033												
ZZZZZZ	ZZZZZZ	1038												
ZZZZZZ	ZZZZZZ	1042												
CCV3	CCV3	1048	100											
CCB3	CCB3	1055	101											

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Columbia Analytical Services Contract: _____

Lab Code: CASK Case No.: _____ NRAS No. _____ SDG NO.: K1110227

ICP-MS Instrument ID: K-ICP-MS-02 Start Date: 12/06/2011 End Date: 12/06/2011

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Rh_103	Q	Element In_115	Q	Element	Q	Element	Q	Element	Q	Element	Q
Cal. Blk	Cal. Blk	1232	100		100									
Cal. Stn	Cal. Stn	1234	102		103									
ICV1	ICV1 HCL	1236	100		101									
CCV1	CCV1	1239	101		101									
ICB1	ICB1	1243	99		99									
CCB1	CCB1	1245	99		100									
CRA1	LLICV	1247	99		100									
ICS-A1	ICSA	1249	78		82									
ICS-AB1	ICSAB	1252	77		82									
K1110227-MB	Method Blank	1259	95		96									
ZZZZZZ	ZZZZZZ	1301												
LCSW1	LCSW	1303	103		105									
LCSW2	DLCSW	1306	103		104									
ZZZZZZ	ZZZZZZ	1310												
K1110524-001L	Batch QC2L	1313	98		98									
ZZZZZZ	ZZZZZZ	1316												
K1110524-001S	Batch QC2S	1319	89		104									
K1110524-001SD	Batch QC2SD	1322	91		104									
K1110524-001A	Batch QC2A	1327	92		96									
CCV2	CCV2	1329	102		101									
CCB2	CCB2	1333	102		101									

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Columbia Analytical Services Contract: _____

Lab Code: CASK Case No.: _____ NRAS No. _____ SDG NO.: K1110227

ICP-MS Instrument ID: K-ICP-MS-02 Start Date: 12/06/2011 End Date: 12/06/2011

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Rh_103	Q	Element In_115	Q	Element	Q	Element	Q	Element	Q	Element	Q
Cal. Blk	Cal. Blk	1336	100		100									
Cal. Stn	Cal. Stn	1338	101		101									
ICV2	ICV1 HCL	1340	99		100									
CCV1	CCV1	1344	100		101									
ICB2	ICB1	1348	100		100									
CCB1	CCB1	1351	99		99									
CRA2	LLICV	1354	100		99									
ICS-A2	ICSA	1357	78		82									
ICS-AB2	ICSAB	1400	77		83									
ZZZZZZ	ZZZZZZ	1403												
ZZZZZZ	ZZZZZZ	1405												
ZZZZZZ	ZZZZZZ	1408												
ZZZZZZ	ZZZZZZ	1411												
ZZZZZZ	ZZZZZZ	1415												
ZZZZZZ	ZZZZZZ	1418												
K1110227-001	CZBS0054S005	1421	86		89									
ZZZZZZ	ZZZZZZ	1424												
ZZZZZZ	ZZZZZZ	1427												
ZZZZZZ	ZZZZZZ	1430												
CCV2	CCV2	1433	101		101									
CCB2	CCB2	1436	100		98									

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0164, K0227, K0363, K0467, K0524, K0641, K0689
Star Lims Run No.: K0DICKST 145941

Method: EPA 3050B

Analysis for: (ICP) ICP-MS GFAA Flame AA Other _____

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
MB					100	10% HNO_3, 10% HCl
LL-LCSW				1.00 mL ICP9-74-A, 1.00 mL ICP9-73-D	100	10% HNO_3, 10% HCl
LCSW					100	10% HNO_3, 10% HCl
DLCSW					100	10% HNO_3, 10% HCl
K0164-001	1.07		X		100	10% HNO_3, 10% HCl
K0164-002	1.11				100	10% HNO_3, 10% HCl
K0164-003	1.06				100	10% HNO_3, 10% HCl
K0164-004	1.12				100	10% HNO_3, 10% HCl
K0227-001	1.14				100	10% HNO_3, 10% HCl
K0363-001	1.12				100	10% HNO_3, 10% HCl
K0363-002	1.05				100	10% HNO_3, 10% HCl
K0467-001	1.05				100	10% HNO_3, 10% HCl
K0524-001	1.10				100	10% HNO_3, 10% HCl
K0524-001MS	1.11				100	10% HNO_3, 10% HCl
K0524-001DMS	1.10				100	10% HNO_3, 10% HCl
K0524-002	1.24				100	10% HNO_3, 10% HCl
K0641-001	1.06				100	10% HNO_3, 10% HCl
K0641-002	1.15				100	10% HNO_3, 10% HCl
K0689-001	1.05				100	10% HNO_3, 10% HCl
K0689-002	1.05		↓		100	10% HNO_3, 10% HCl

Balance I.D.: 2 **Date Balance Checked** 12.2.11
Lot # Acids Used: HNO_3 K23022 HCl 511109 H_2O_2 H231003 HF _____
Hot Block Temp: 95°C
LCSS (circle appropriate) **ERA CLP Soil Lot # D065-540** **Other:** LL-LCSW = ICP9-73-D & ICP9-74-A

GFAA LCSW = GFLCSW, ID#21895, _____ mls. added Time Digestion Started: 11:05 AM
ICP LCSW = QCP-CICV-1, ID#18109, 1.00 mls. added Initial Reflux Time: _____ min.
QCP CICV-2, ID#20797, 1.00 mls. added Secondary Reflux Time: _____ min.
QCP CICV-3, ID#20255, 1.00 mls. added HCL Reflux Time (if needed): _____ min.
SS4, ID#25536, 1.00 mls. Added

SPIKE INFO
K-METSS1 ID#24706 2.00 mls added K-METSS2 ID#21894 _____ mls added K-METSS5 ID#25344 1.00 mls added
K-MET SS3 ID#25104 1.00 mls added 200.8 1000ppb Stock ID#21569 _____ mls added
K-MET SS4 ID#25536 1.00 mls added Ag 1000ppb Stock ID#26520 _____ mls added
Additional spikes: 0.2mL Li, 0.2mL Sn, 0.2mL P, 0.2mL Sr, 0.2mL Ti added to LCSW & DLCSW, MS, & DMS.
Comments: Tin-Free peroxide used.
Sample K0524-002 was mostly rocks. Tin-Free H_2O_2 was used.

Analyst [signature] **Date** 12.2.11
Reviewer [signature] **Date** 12/6/11

metdig_3050B.xls

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0169, K0227, K0363, K0467, K0524, K0641, K0689
Star Lims Run No.: RE-DIGEST 145943

Method: EPA 3050B

Analysis for: ICP (ICP-MS) GFAA Flame AA Other

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
MB					100	10% HNO_3
LL-LCS					100	10% HNO_3
LCSW					100	10% HNO_3
DLCSW					100	10% HNO_3
K0169-001	1.08		X		100	10% HNO_3
K0169-002	1.12				100	10% HNO_3
K0169-003	1.05				100	10% HNO_3
K0169-004	1.11				100	10% HNO_3
K0227-001	1.13				100	10% HNO_3
K0363-001	1.12				100	10% HNO_3
K0363-002	1.04				100	10% HNO_3
K0467-001	1.06				100	10% HNO_3
K0524-001	1.11				100	10% HNO_3
K0524-002	1.23				100	10% HNO_3
K0641-001	1.04				100	10% HNO_3
K0641-002	1.14				100	10% HNO_3
K0689-001	1.05				100	10% HNO_3
K0689-002	1.04				100	10% HNO_3
K0524-001MS	1.09				100	10% HNO_3
K0524-001DMS	1.10		↓		100	10% HNO_3

Balance I.D.: 02 **Date Balance Checked** 12.2.11
Lot # Acids Used: **HNO3** K133022 **HCl** _____ **H_2O_2** 147124 **HF** _____
Hot Block Temp: 95°C
LCSS (circle appropriate) **ERA CLP Soil Lot # D065-540** **Other:** LL-LCS: DMC MS14-73-C, SMC MS14-55-C, IMC MS14-53-B

GFAA LCSW = GFLCSW, ID#21895, _____ mls. added
ICP LCSW = QCP-ICV-1, ID#18109, 1.00 mls. added
QCP CICV-2, ID#20797, 1.00 mls. added
QCP CICV-3, ID#20255, 1.00 mls. added
SS4, ID#25536, 1.00 mls. Added

Time Digestion Started: 11:22 AM
Initial Reflux Time: _____ min.
Secondary Reflux Time: _____ min.
HCL Reflux Time (if needed): _____ min.

SPIKE INFO
K-METSS1 ID#24706 _____ mls added K-METSS2 ID#21894 _____ mls added K-METSS5 ID#25344 _____ mls added
K-MET SS3 ID#25104 _____ mls added 200.8 1000ppb Stock ID#21569 _____ mls added
K-MET SS4 ID#25536 _____ mls added Ag 1000ppb Stock ID#26520 _____ mls added
Additional spikes: ~~Zr~~ 0.1mL Zr added to ~~MS DMS~~ LCSW and DLCSW (1000 ppm)
Comments: 2mL 10 ppm Zr added to MS and DMS.
Sample K0524-002 was mostly rocks.

Analyst Bobbie Hall **Date** 12.2.11
Reviewer _____ **Date** 12/2/11

metdig_3050B.xls

METALS SPIKING SOLUTIONS CONCENTRATIONS FORM

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added
K-MET SS1	HNO3	50.0	1000ml	-	
	Al	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	200	
	Be	100*	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	1000ml	50	
	Cr	100*	1000ml	20	
	Cu	100*	1000ml	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000ml	50	
	Mn	100*	1000ml	50	
	Ni	100*	1000ml	50	
	Sb	50	1000ml	50	
	V	100*	1000ml	50	
	Zn	100*	1000ml	50	
K-MET SS2	HNO3	25.0	500ml	-	
	As	2.0	500ml	4	
	Cd	2.0	500ml	4	
	Pb	2.0	500ml	4	
	Se	2.0	500ml	4	
	Tl	2.0	500ml	4	
	Cu	2.0	500ml	4	
K-MET SS3	HNO3	25.0	500ml	-	
	As	50.0	500ml	100	
	Se	50.0	500ml	100	
	Tl	50.0	500ml	100	
K-MET SS4	HNO3	25	500ml	-	
	B	50	500ml	100	
	Mo	50	500ml	100	
K-MET SS5	HNO3	10.0	200ml	-	
	K**	20	200ml	1000	
	Na**	20	200ml	1000	
	Mg**	20	200ml	1000	
	Ca**	20	200ml	1000	

K-MET GFLCSW	HNO3	10.0	1000ml	-	
	As, Pb, Se, Tl	5.0	1000ml	2.5	
	Cd	-	-	1.25	
	Cu	2.5	1000ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-2	Sb	no dilution	-	500	
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

ICPMS LOW LEVEL LCSW
FOR SANTA SUSANA PROJECT

MS14-73-C 10.0mL Expires 4/11/12 10.0mL

Analyte	ppb	Concentration in digestate (ppb)	Analyte	ppb	Concentration in digestate (ppb)
Al	200	20	Ni	20	2
Sb	5	0.5	Se	100	10
As	50	5	Tl	2	0.2
Ba	5	0.5	U	2	0.2
Be	2	0.2	Zn	50	5
Bi	5	0.5	V	20	2
B	50	5	Sr	10	1
Cd	2	0.2	Ti	10	1
Cr	20	2	Sn	5	0.5
Co	2	0.2	Ag	10	1
Cu	10	1			
Pb	2	0.2			
Mn	5	0.5			
Mo	5	0.5			

MS14-55-C 5.00mL Expires 2/1/12

	ppb	Concentration in digestate (ppb)
Pb	6	0.3

MS14-53-B 1.00mL Expires 1/27/12

	ppb	Concentration in digestate (ppb)
Zr	100	1

ICP LOW LEVEL LCSW
FOR SANTA SUSANA PROJECT

ICP9-74-A 1.00mL Expires 1/16/12		
Analyte	ppm	Concentration in digestate (ppm)
Al	0.05	0.025
Sb	0.02	0.01
Ba	0.5	0.25
Na	40	20
Mg	4	2
K	80	40
P	6	3
Sr	0.2	0.1
Sn	2	1
Ag	0.02	0.01
Ti	0.2	0.1
Zn	2	1

ICP9-73-D 1.00mL Expires 4/11/12		
Analyte	ppm	Concentration in digestate (ppm)
B	10	5

CVAA Mercury Data Review Form

K-CVAA-02

Element: Hg

Analysis Lot #: 110411A HG2

Starlims # 268293

Cal. STD/CCV Source: HG2-8-B

Service Request Numbers:

K1110169, K1110227, K1110363, K1110467, K1110524, K1110641, K1110512, LOD/LOQ 7471B

	Yes	No	NA
1) Appropriate standardization completed	X		
2) ICV within 10% of true value	X		
3) CCVs in control	X		
4) CCBs and or ICBs below MRL	X		
5) CCV/CCB check run every 10 samples	X		
6) All reported samples within calibration range	X		
7) Calculations correct	X		

Comments: K1110467, K1110524, K1110641, & K1110512 REPORTED USING WET WEIGHTS.

Data reviewed against service request(s) to ensure no samples were omitted: MB (Initials)

Primary Reviewed By: MB Date: 11/4/11

Secondary Reviewed By: JDB Date: 11/7/11

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471B) 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	Cal. Blk.	0.00	50	~			0.00
2	Std 0.2	*0.1	50	~			0.20
3	Std 0.5	*0.25	50	~			0.50
4	Std 1.0	*0.5	50	~			1.00
5	Std 5.0	*2.5	50	~			5.00
6	Std 10.0	*5.0	50	~			10.00
7	ICV1	~	~	~	5.110		102%
8	ICB1	~	~	~	-0.053		-0.053
9	CRA1	~	~	~	0.208		104%
10	CCV1	~	~	~	5.110		102%
11	CCB1	~	~	~	-0.059		-0.059
12	K1110169-MB	0.585	50	~	0.005	0.000	
13	LCSW AT MRL/LOQ	~	50	~	0.197		99%
14	LCSS K1110169 1/10	0.296	50	10	3.600	6.081	89%
15	DLCSS K1110169 1/10	0.292	50	10	3.270	5.599	82%
16	K1110169-001	0.525	50	~	0.399	0.038	
17	K1110169-001A	~	50	~	5.060		93%
18	K1110169-001D	0.527	50	~	0.012	0.001	
19	K1110169-001S	0.509	50	~	4.930	0.484	91%
20	K1110169-002	0.585	50	~	0.117	0.010	
21	K1110169-003	0.582	50	~	0.171	0.015	
22	CCV2	~	~	~	5.010		100%
23	CCB2	~	~	~	-0.157		-0.157
24	~~K1110169-004~~	~~0.518~~	~~50~~	~	~~0.029~~	~~0.003~~	
25	~~K1110227-001~~	~~0.503~~	~~50~~	~	~~0.060~~	~~0.006~~	

MP 11/4/11

Comments: Reporting Levels: K1110169-001S 0.491ug/L Cal. Inter. Std*_(100ppb)___HG2-8-B_____
Soil/Tissue Spike Level: 2nd Source Inter Std**_(1ppm)___HG2-7-U_____
Post Spike Level: x @ 5 µg/L

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	80-120%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	6.80 mg/kg	0.02 mg/kg	72-128%	80-120%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	80-120%	30%

Analyst:	Date: 11/4/11	Page Number: 1

[110411A SOILS] HG1.XLS

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471B) 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
26	~~K1110363-001~~	~~0.529~~	~~50~~	-	~~0.073~~	~~0.007~~	
27	CCV3	~	~	~	5.060		101%
28	CCB3	~	~	~	-0.049		-0.049
29	K1110169-004	0.518	50	~	0.056	0.005	
30	K1110227-001	0.503	50	~	0.131	0.013	
31	K1110363-001	0.529	50	~	0.158	0.015	
32	K1110363-002	0.606	50	~	0.192	0.016	
33	K1110467-001	0.603	50	~	0.099	0.008	
34	K1110524-001	0.611	50	~	0.101	0.008	
35	K1110524-002	0.602	50	~	0.228	0.019	
36	K1110641-001	0.640	50	~	0.286	0.022	
37	K1110641-002	0.625	50	~	0.263	0.021	
38	K1110512-001	0.531	50	~	0.040	0.004	
39	CCV4	~	~	~	4.890		98%
40	CCB4	~	~	~	-0.101		-0.101
41	LOD	~	50	~	0.035		
42	CCV5	~	~	~	5.010		100%
43	CCB5	~	~	~	-0.102		-0.102
44							
45							
46				MB	11/4/11		
47							
48							
49							
50							

MB 11/4/11

Comments: Reporting Levels:

Soil/Tissue Spike Level:

Post Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	80-120%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	6.80 mg/kg	0.02 mg/kg	72-128%	80-120%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	80-120%	30%

Analyst:	Date: 11/4/11	Page Number: 2

[110411A SOILS] HG2.XLS

Columbia Analytical Services K-CVAA-02

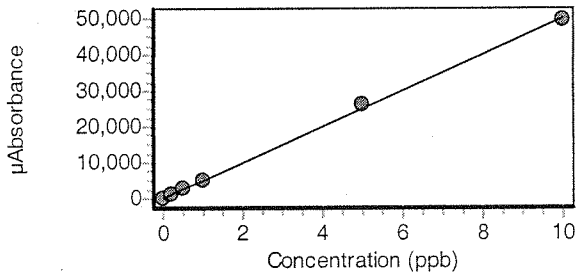
Report Generated By CETAC QuickTrace
Analyst: ACQMET18
Worksheet file: C:\Program Files\QuickTrace\Worksheets\110411A HG2.wsz
Date Started: 11/4/2011 1:29:17 PM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Calibration Blank					STD	11/04/11 02:00:58 pm	0.000	59	47.22	
Replicates	49.5	73.2	24.7	88.2						
Standard #1					STD	11/04/11 02:02:35 pm	0.200	1045	2.59	
Replicates	1075.7	1020.9	1023.6	1059.4						
Standard #2					STD	11/04/11 02:04:11 pm	0.500	2646	1.94	
Replicates	2585.9	2624.8	2667.9	2703.7						
Standard #3					STD	11/04/11 02:05:49 pm	1.000	5283	1.27	
Replicates	5209.8	5253.7	5303.4	5366.4						
Standard #4					STD	11/04/11 02:07:27 pm	5.000	26077	2.03	
Replicates	26455.9	26536.2	25922.0	25394.5						
Standard #5					STD	11/04/11 02:09:05 pm	10.000	49678	1.78	
Replicates	48713.0	49293.7	49939.1	50767.1						

Calibration

Equation: A = 58.919 + 5012.267C
R2: 0.99930
SEE: 637.9114
Flags:



ICV1					ICV	11/04/11 02:10:44 pm	5.110	25687	0.87	
Replicates	25717.2	25932.6	25710.3	25389.1						
% Recovery	102.26									

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
ICB1					ICB	11/04/11 02:12:20 pm	-0.053	-205	16.96	
	Replicates	-189.7	-163.3	-237.2	-229.9					
CRA1					CRDL	11/04/11 02:13:56 pm	0.208	1099	4.27	
	Replicates	1033.4	1131.2	1097.7	1134.8					
	% Recovery	103.78								
CCV1					CCV	11/04/11 02:15:34 pm	5.110	25690	0.22	
	Replicates	25667.9	25631.1	25692.1	25767.8					
	% Recovery	102.27								
CCB1					CCB	11/04/11 02:17:09 pm	-0.059	-234	16.85	
	Replicates	-185.9	-270.5	-218.9	-262.4					
K1110169-MB					UNK	11/04/11 02:18:45 pm	0.005	84	29.46	
	Replicates	93.7	47.6	102.8	92.9					
LCSW AT MRL/LOQ					UNK	11/04/11 02:20:21 pm	0.197	1044	2.77	
	Replicates	1041.8	1006.4	1075.6	1054.1					
LCSS K1110169 1/10					UNK	11/04/11 02:21:57 pm	3.600	18108	0.43	
	Replicates	18000.7	18182.7	18141.8	18105.7					
DLCSS K1110169 1/10					UNK	11/04/11 02:23:33 pm	3.270	16447	0.57	
	Replicates	16518.0	16501.7	16456.6	16311.5					
K1110169-001					UNK	11/04/11 02:25:10 pm	0.399	2059	1.51	
	Replicates	2101.1	2060.5	2043.6	2029.4					
K1110169-001A					UNK	11/04/11 02:26:47 pm	5.060	25413	1.07	
	Replicates	25100.3	25311.3	25501.3	25739.5					
K1110169-001D					UNK	11/04/11 02:28:24 pm	0.012	121	16.41	
	Replicates	113.8	111.6	150.2	107.4					
K1110169-001S					UNK	11/04/11 02:30:02 pm	4.930	24767	1.58	
	Replicates	24322.6	24603.0	24919.2	25224.6					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
K1110169-002				UNK	11/04/11 02:31:40 pm	0.117	645	11.13	
Replicates	644.3	694.9	696.5	543.5					
K1110169-003				UNK	11/04/11 02:33:18 pm	0.171	914	3.44	
Replicates	904.6	912.6	881.4	956.5					
CCV2				CCV	11/04/11 02:34:56 pm	5.010	25170	1.63	
Replicates	24712.3	24978.9	25338.2	25649.4					
% Recovery	100.20								
CCB2				CCB	11/04/11 02:36:32 pm	-0.157	-730	3.10	
Replicates	-712.8	-712.9	-735.6	-760.2					
K1110169-004				UNK	11/04/11 02:38:10 pm	0.029	205	11.65	
Replicates	230.0	173.6	215.3	203.0					
K1110227-001				UNK	11/04/11 02:39:49 pm	0.060	359	6.98	
Replicates	385.2	337.3	338.4	376.4					
K1110363-001				UNK	11/04/11 02:41:24 pm	0.073	426	5.26	
Replicates	402.5	446.4	443.9	411.3					
CCV3				CCV	11/04/11 02:47:54 pm	5.060	25411	2.29	
Replicates	24733.3	25202.7	25610.9	26098.6					
% Recovery	101.16								
CCB3				CCB	11/04/11 02:49:59 pm	-0.049	-188	12.82	
Replicates	-176.2	-202.3	-212.8	-160.1					
K1110169-004				UNK	11/04/11 02:51:38 pm	0.056	340	8.08	
Replicates	326.8	381.5	325.2	327.6					
K1110227-001				UNK	11/04/11 02:53:17 pm	0.131	715	2.94	
Replicates	725.6	683.5	726.3	724.3					
K1110363-001				UNK	11/04/11 02:54:52 pm	0.158	848	4.40	
Replicates	794.3	857.1	862.4	879.9					

MB 11/4/11
Re-run.
Base line
shifted.

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
K1110363-002				UNK	11/04/11 02:56:27 pm	0.192	1019	2.13	
Replicates	1011.9	991.8	1039.0	1034.0					
K1110467-001				UNK	11/04/11 02:58:03 pm	0.099	556	5.51	
Replicates	514.4	580.5	551.1	577.5					
K1110524-001				UNK	11/04/11 02:59:39 pm	0.101	565	7.54	
Replicates	569.4	553.6	516.5	619.3					
K1110524-002				UNK	11/04/11 03:01:15 pm	0.228	1202	1.35	
Replicates	1190.7	1222.1	1187.6	1209.2					
K1110641-001				UNK	11/04/11 03:02:52 pm	0.286	1491	2.49	
Replicates	1456.5	1496.5	1469.8	1540.8					
K1110641-002				UNK	11/04/11 03:04:29 pm	0.263	1377	0.34	
Replicates	1371.7	1374.5	1378.2	1382.5					
K1110512-001				UNK	11/04/11 03:06:06 pm	0.040	261	7.83	
Replicates	268.0	255.3	235.5	283.8					
CCV4				CCV	11/04/11 03:07:44 pm	4.890	24546	1.95	
Replicates	24041.1	24281.4	24741.1	25118.4					
% Recovery	97.71								
CCB4				CCB	11/04/11 03:09:20 pm	-0.101	-449	6.02	
Replicates	-420.3	-471.0	-432.0	-473.5					
LOD				UNK	11/04/11 03:10:57 pm	0.035	235	6.25	
Replicates	238.4	240.8	246.2	213.2					
CCV5				CCV	11/04/11 03:12:35 pm	5.010	25171	1.38	
Replicates	24735.3	25046.3	25423.9	25478.2					
% Recovery	100.20								
CCB5				CCB	11/04/11 03:14:11 pm	-0.102	-451	2.35	
Replicates	-463.1	-439.2	-446.2	-456.2					

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run: 145775 **Prep Workflow:** HgDigS **Status:** Prepped **Prep Date:** 11/04/2011 09:34
Team: Metals **Prep Method:** Method **Current Step:** Digestion **Due Date:** 11/06/2011
Analyst: MBEVANS **Rush/NPDES:** N/A **Hold Date:** 11/15/2011

Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments Dry Weight
KQ1112120-01	Method Blank		0.585 g		50 mL			
KQ1112120-04	Lab Control Sample		g		50 mL	0.1 mL	36645	
KQ1112120-05	Standard Reference Material		0.296 g		50 mL			
KQ1112120-06	Standard Reference Material		0.292 g		50 mL			
K1110169-001	CZBS0079S005 Soil	.02	0.564 g		50 mL			0.525g
K1110169-001: KQ1112120-07	Duplicate	.02	0.566 g		50 mL			0.527g
K1110169-001: KQ1112120-08	Matrix Spike	.02	0.547 g		50 mL	0.25 mL	36510	0.509g
K1110169-002	CZBS0064S005 Soil	.01	0.641 g		50 mL			0.585g
K1110169-003	CZBS0019S005 Soil	.01	0.607 g		50 mL			0.582g
K1110169-004	CZBS0040S035 Soil	.01	0.567 g		50 mL			0.518g
K1110227-001	CZBS0054S005 Soil	.02	0.551 g		50 mL			0.503g
K1110363-001	CZBS0069S005 Soil	.02	0.578 g		50 mL			0.529g
K1110363-002	CZBS0089S005 Soil	.01	0.632 g		50 mL			0.606g
K1110467-001	CZBS0076S005	.01	0.603 g		50 mL			
K1110524-001	CZBS0045S055 Soil	.01	0.611 g		50 mL			
K1110524-002	CZBS0029S005 Soil	.01	0.602 g		50 mL			
K1110641-001	CZBS0039S005 Soil	.02	0.640 g		50 mL			
K1110641-002	CZBS0005S035 Soil	.02	0.625 g		50 mL			
K1110512-001	100% WBN Furnish 1 CL Hinged Lid Containers	.05	0.531 g		50 mL			

19 Total Samples consisting of 13 Client Samples, 2 Client QC Samples, 4 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires
K-MET Hg Source Soil/TCLP 1000 ug/L	Spike	36510	12/1/2011

Name	Type	ID	Expires
K-MET Hg Source Standard 100 ug/L	Spike	36645	11/5/2011

Preparation Materials

Step	Name	ID
Digestion	K-MET 100ml Centrifuge Tube	32343
Digestion	K-MET NACl Hg	32790
Digestion	K-MET HCl Hg	36038
Digestion	K-MET HNO3 Hg	36039

Step	Name	ID
Digestion	K-MET KMnO4 Hg	36042
Digestion	K-MET NH2OH-HCl Hg	36043
Digestion	K-MET SnCl Hg	36045

Preparation Hardware / Equipment

Step	Name	Property	Value	
Digestion	K-Balance-37	Date Calibrated	11/04/11	

Step	Name	Property	Value	
Digestion	K-BlockDigester-03	TemperaturerThermometeT-011489	95	deg C

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	04-NOV-11 09:34	04-NOV-11 10:04	MBEVANS		N	

Comments

Cal. STD/CCV Source: HG2-8-B

Review

Reviewed by: JDB Date: 11/7/11

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run: 145775 **Prep Workflow:** HgDigS **Status:** Draft **Prep Date:** 11/03/2011 11:13
Team: Metals **Prep Method:** Method **Current Step:** Digestion **Due Date:** 11/06/2011
Analyst: MBEVANS **Rush/NPDES:** N/A **Hold Date:** 11/15/2011

Lab Code	Client ID	Bottle #	Target Amt	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1112120-01	Method Blank		0.5 g						0.585g
KQ1112120-04	Lab Control Sample		0.5 g						N/A
KQ1112120-05	Standard Reference Material		0.5 g						0.296g
KQ1112120-06	Standard Reference Material		0.5 g						0.292g
K1110169-001	CZBS0079S005 Soil	.02	0.54 g						0.564g
K1110169-001: KQ1112120-07	Duplicate	.02	0.5 g						0.566g
K1110169-001: KQ1112120-08	Matrix Spike	.02	0.5 g				0.25 mL	36510	0.547g
K1110169-002	CZBS0064S005 Soil	.01	0.55 g						0.641g
K1110169-003	CZBS0019S005 Soil	.01	0.52 g						0.607g
K1110169-004	CZBS0040S035 Soil	.01	0.55 g						0.567g
K1110227-001	CZBS0054S005 Soil	.02	0.55 g						0.551g
K1110363-001	CZBS0069S005 Soil	.02	0.55 g						0.578g
K1110363-002	CZBS0089S005 Soil	.01	0.52 g						0.632g
K1110467-001	CZBS0076S005	.01	0.5 g						0.603g
K1110524-001	CZBS0045S055 Soil	.01	0.5 g						0.611g
K1110524-002	CZBS0029S005 Soil	.01	0.5 g						0.602g
K1110641-001	CZBS0039S005 Soil	.02	0.5 g						0.640g
K1110641-002	CZBS0005S035 Soil	.02	0.5 g						0.625g

Less
Less

18 Total Samples consisting of 12 Client Samples, 2 Client QC Samples, 4 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

K1110512-001 → 0.531g
Dig 9:34 11/4/11
243 H62-8-B

Name	Type	ID	Expires
K-MET Hg Source Soil/TCLP 1000 ug/L	Spike	36510	12/1/2011

Preparation Materials

Step	Name	ID
Digestion	K-MET 100ml Centrifuge Tube	32343
Digestion	K-MET NACl Hg	32790
Digestion	K-MET HCl Hg	36038
Digestion	K-MET HNO3 Hg	36039

Step	Name	ID
Digestion	K-MET KMnO4 Hg	36042
Digestion	K-MET NH2OH-HCl Hg	36043
Digestion	K-MET SnCl Hg	36045

Preparation Hardware / Equipment

Step	Name	Property	Value
Digestion	K-Balance-37	Date Calibrated	

Step	Name	Property	Value
Digestion	K-BlockDigester-03	TemperaturerThermometeT-011489	deg C

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion						

Comments

Service Request # K1110227 Redigest
Instrument ID# K-ICP-AES-03

ICP-OES Data Review Form

		Yes	No
1.	Standardization completed	✓	
2.	ICV within 10 % of true value	✓	
3.	ICB below MRL	✓	
4.	CRI/LLICV standard analyzed.	✓	
5.	ICS standards within 20% of true value	✓	
6.	All preceding CCVs within 10 % of true value	✓	
7.	Following CCV within 10 % of true value	✓	
8.	Bracketing CCBs below MRL	✓	
9.	Method Blank below MRL	✓	
10.	MS-MSD or Dup-MS and LCS within CAS control limits	✓	
11.	All analytes within instrument linear range	✓	
12.	Adequate rinse out time allowed between samples to eliminate memory effect	✓	
13.	Run terminated early		✓

Comments:
StarLIMS Run # 272005 Saved under 120511AICP03
6010C/200.7 Calibration.
Report Cd2265, Cu3273, Zn2062.
~~6010C: Na MRL=2X. LL Al, Ag=2X. NR LL Sr.~~ NA MMM 12/5/11

Primary Review by MMM Date 12/5/11

Secondary Review by TRT Date 12/7/11

Sample Name: BLK Acquired: 12/5/2011 13:52:52 Type: Cal
Method: 2011C(v157) Mode: IR Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0011**	**-32.14**	**3.069**	**2.417**	**.0098**	**-.09842**	**14.90**
Stddev	.0001	2.58	.481	.778	.0015	2.8230	2.56
%RSD	5.796	8.027	15.67	32.19	15.62	2868.4	17.20
#1	.0011	-33.96	3.409	2.967	.0109	-2.0946	16.71
#2	.0011	-30.31	2.729	1.867	.0087	1.8977	13.08

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0003**	**-.0003**	**.0016**	**.0927**	**-.0001**	**.0006**	**-.0003**
Stddev	.0010	.0006	.0005	.0017	.0000	.0006	.0000
%RSD	418.2	185.4	29.03	1.828	38.96	100.8	1.040
#1	.0010	-.0007	.0013	.0915	-.0001	.0010	-.0003
#2	-.0005	.0001	.0020	.0939	-.0001	.0002	-.0003

Elem	Cu3273	Fe2599	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**8.929**	**.0025**	**-.0008**	**-.0004**	**.0037**	**8.125**	**.0002**
Stddev	7.613	.0001	.0013	.0001	.0002	1.874	.0000
%RSD	85.26	4.067	151.4	29.20	4.139	23.06	12.50
#1	14.31	.0025	.0001	-.0004	.0038	9.450	.0002
#2	3.546	.0026	-.0017	-.0003	.0036	6.800	.0002

Elem	Mn2605	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0000**	**-.0001**	**.0019**	**-14.33**	**.2300**	**-31.77**	**29.68**
Stddev	.0000	.0002	.0003	6.47	.1113	6.77	3.46
%RSD	1.732	196.7	18.44	45.15	48.37	21.32	11.65
#1	.0000	.0000	.0021	-9.754	.3087	-26.98	27.24
#2	.0000	-.0002	.0016	-18.90	.1513	-36.56	32.13

Sample Name: BLK Acquired: 12/5/2011 13:52:52 Type: Cal
Method: 2011C(v157) Mode: IR Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0003**	**.0006**	**.0003**	**4.386**	**1.853**	**27.84**	**.0016**
Stddev	.0004	.0001	.0008	.310	.905	2.70	.0000
%RSD	142.8	9.542	289.9	7.059	48.84	9.693	1.343
#1	.0005	.0007	-.0003	4.167	1.213	25.93	.0016
#2	.0000	.0006	.0008	4.604	2.493	29.75	.0017

Elem	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.0024**	**47.38**	**-.00115**	**.0020**	**-2.634**
Stddev	.0007	14.47	.00126	.0001	.672
%RSD	29.44	30.55	109.90	3.437	25.52
#1	-.0019	37.14	-.00204	.0020	-3.109
#2	-.0029	57.61	-.00026	.0021	-2.159

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3057.2**	**74266.**	**5708.7**	**786.78**
Stddev	9.8	446.	226.8	1.25
%RSD	.31906	.60048	3.9720	.15937
#1	3050.3	73951.	5548.4	785.90
#2	3064.1	74582.	5869.0	787.67

12/5/11

Sample Name: STD A Acquired: 12/5/2011 13:55:21 Type: Cal
Method: 2011C(v157) Mode: IR Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-81-A

Elem	Al1670	Sb2068	Be2348	B_2496	Cd2144	Cd2265	Ca3933	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.2230**	**255.8**	**26817.**	**1906.**	**9.748**	**2.101**	**12.33**	**.0949**
Stddev	.0002	.9	64.	2.	.011	.006	.05	.0000
%RSD	.0726	.3667	.23992	.0964	.1141	.2951	.3837	.0331
#1	.2231	256.5	26862.	1905.	9.740	2.105	12.30	.0949
#2	.2229	255.2	26771.	1907.	9.756	2.096	12.37	.0950

Elem	Co2307	Cu2247	Cu3273	Pb2203	Mg2795	Mn2576	Mo2020	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.6820**	**1.610**	**7709.**	**.6173**	**4.255**	**.4959**	**.5726**	**.8059**
Stddev	.0010	.004	49.	.0024	.020	.0002	.0000	.0012
%RSD	.1485	.2302	.6338	.3900	.4587	.0372	.0068	.1457
#1	.6827	1.608	7744.	.6156	4.241	.4960	.5726	.8067
#2	.6813	1.613	7675.	.6190	4.269	.4958	.5727	.8051

Elem	Se1960	Ag3280	Sn1899	V_2924	Zn2062	Zn2138	Ti3361	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**178.4**	**9783.**	**.4655**	**.1069**	**2.405**	**5918.**	**.3840**	**.3901**
Stddev	.9	61.	.0020	.0000	.005	11.	.0004	.0003
%RSD	.5039	.6255	.4376	.0379	.2306	.1826	.1071	.0643
#1	179.1	9826.	.4641	.1069	2.401	5910.	.3837	.3899
#2	177.8	9740.	.4670	.1068	2.409	5926.	.3843	.3902

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3054.3**	**74029.**	**5740.6**	**782.75**
Stddev	6.4	176.	33.9	.49
%RSD	.20794	.23737	.59122	.06234
#1	3049.8	74153.	5764.6	783.10
#2	3058.8	73905.	5716.6	782.41

Sample Name: STD B Acquired: 12/5/2011 13:57:32 Type: Cal
Method: 2011C(v157) Mode: IR Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-74-B

Elem	Al3944	As1890	Ba4554	Ca3158	Fe2599	Mg2790	Mg2852	Mn2605
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**92930.**	**687.0**	**157.2**	**2.901**	**4.856**	**.4849**	**61530.**	**.0755**
Stddev	149.	4.3	2.1	.019	.023	.0054	197.	.0006
%RSD	.1601	.6246	1.352	.6481	.4666	1.106	.3205	.7677
#1	92820.	684.0	155.7	2.887	4.839	.4811	61670.	.0759
#2	93030.	690.1	158.7	2.914	4.872	.4887	61390.	.0750

Elem	K_7664	Na5895	P_2149	Si2516	Li6707	Sr4077	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**9295.**	**25590.**	**5202.**	**8037.**	**16800.**	**29.778**	**.4426**	**316.6**
Stddev	54.	11.	34.	39.	22.	.249	.0013	3.5
%RSD	.5852	.0421	.6484	.4867	.1289	.83544	.2878	1.103
#1	9334.	25580.	5178.	8064.	16810.	29.602	.4417	314.2
#2	9257.	25590.	5226.	8009.	16780.	29.954	.4435	319.1

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2999.0**	**71661.**	**5653.1**	**748.93**
Stddev	26.4	257.	78.5	3.85
%RSD	.88079	.35866	1.3882	.51429
#1	2980.3	71479.	5708.6	746.21
#2	3017.7	71843.	5597.6	751.66

Sample Name: ICVB1 Acquired: 12/5/2011 14:00:09 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-83-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9892**	**.9917**	**.0004**	**.0018**	**.0015**	**-.00008**	**2.048**	**.0001**
Stddev	.0034	.0041	.0015	.0027	.0002	.00008	.009	.0000
%RSD	.3413	.4168	362.7	148.7	13.53	99.863	.4221	52.02
#1	.9915	.9946	.0014	-.0001	.0017	-.00002	2.054	.0001
#2	.9868	.9887	-.0006	.0037	.0014	-.00013	2.041	.0000
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**5.021**	**4.984**	**.0010**	**.0004**	**-.0002**	**.0001**	**9.806**
Stddev	.0001	.051	.032	.0003	.0003	.0003	.0002	.029
%RSD	106.1	1.023	.6327	33.58	89.47	111.0	251.8	.2944
#1	.0001	4.985	4.962	.0012	.0001	-.0001	.0002	9.785
#2	.0000	5.057	5.007	.0007	.0006	-.0004	-.0001	9.826
Check ?	None	None	Chk Pass	None	None	None	None	None
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**5.103**	**5.015**	**5.089**	**9.687**	**9.756**	**-.0002**	**-.0002**
Stddev	.0003	.094	.034	.018	.257	.093	.0002	.0000
%RSD	19.28	1.849	.6844	.3645	2.655	.9502	91.37	9.062
#1	.0012	5.036	4.991	5.076	9.869	9.690	-.0001	-.0003
#2	.0016	5.170	5.039	5.102	9.505	9.821	-.0003	-.0002
Check ?	None	None	Chk Pass	None	None	Chk Pass	None	None
Value								
Range								

Sample Name: ICVB1 Acquired: 12/5/2011 14:00:09 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-83-A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0417**	**.0037**	**.0002**	**14.50**	**5.024**	**.0191**	**.0002**	**.0003**
Stddev	.0097	.0001	.0001	.07	.009	.0003	.0001	.0001
%RSD	23.27	3.250	59.41	.4480	.1693	1.418	57.07	38.86
#1	.0348	.0036	.0003	14.46	5.030	.0189	.0001	.0002
#2	.0485	.0038	.0001	14.55	5.018	.0192	.0003	.0004
Check ?	None	None	None	None	Chk Pass	None	None	None
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.022**	**4.992**	**.0000**	**-.0004**	**1.994**	**1.9677**	**4.964**	**4.910**
Stddev	.012	.008	.0002	.0015	.013	.0145	.012	.003
%RSD	.2351	.1521	812.2	340.6	.6412	.73713	.2400	.0517
#1	5.030	4.986	-.0001	.0006	1.985	1.9574	4.972	4.912
#2	5.013	4.997	.0002	-.0015	2.003	1.9779	4.955	4.909
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3040.6	73133.	5662.6	772.00
Stddev	3.0	137.	1.5	.59
%RSD	.09937	.18708	.02708	.07578
#1	3038.4	73230.	5663.7	771.59
#2	3042.7	73037.	5661.5	772.42

Sample Name: ICV1 Acquired: 12/5/2011 14:03:13 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-73-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.426**	**5.056**	**2.436**	**2.410**	**4.949**	**.12596**	**.0053**	**1.213**
Stddev	.017	.030	.003	.002	.057	.00043	.0005	.007
%RSD	.3851	.5937	.1153	.0807	1.147	.33800	9.645	.6113
#1	4.414	5.077	2.434	2.408	4.909	.12626	.0057	1.208
#2	4.438	5.034	2.438	2.411	4.989	.12566	.0049	1.219
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.207**	**12.29**	**11.60**	**.4964**	**1.222**	**.6257**	**.6274**	**2.354**
Stddev	.004	.19	.06	.0093	.008	.0039	.0027	.015
%RSD	.2982	1.506	.5050	1.881	.6512	.6241	.4367	.6284
#1	1.204	12.16	11.64	.5030	1.217	.6229	.6293	2.343
#2	1.209	12.42	11.56	.4898	1.228	.6285	.6254	2.364
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.452**	**12.56**	**12.14**	**12.52**	**1.253**	**1.220**	**2.008**	**1.198**
Stddev	.007	.14	.05	.05	.022	.016	.008	.004
%RSD	.2930	1.099	.3809	.4064	1.744	1.275	.3850	.3705
#1	2.447	12.47	12.17	12.49	1.268	1.231	2.003	1.195
#2	2.458	12.66	12.11	12.56	1.237	1.209	2.014	1.201
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: ICV1 Acquired: 12/5/2011 14:03:13 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-73-A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.24**	**2.434**	**.6178**	**12.84**	**.0017**	**1.238**	**1.220**	**1.217**
Stddev	.01	.003	.0013	.09	.0002	.025	.009	.002
%RSD	.0904	.1202	.2160	.7387	12.14	2.051	.6958	.1761
#1	12.24	2.432	.6188	12.77	.0018	1.256	1.214	1.216
#2	12.25	2.436	.6169	12.91	.0015	1.220	1.226	1.219
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0087**	**.0200**	**2.004**	**2.476**	**.0001**	**.00035**	**.0234**	**.0035**
Stddev	.0058	.0074	.037	.013	.0001	.00002	.0021	.0060
%RSD	65.99	37.16	1.844	.5384	106.8	6.7568	9.071	174.8
#1	-.0128	.0252	2.030	2.467	.0000	.00037	.0219	-.0008
#2	-.0047	.0147	1.978	2.486	.0002	.00033	.0249	.0077
Check ?	None	None	Chk Pass	Chk Pass	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3072.4**	**73515.**	**5719.6**	**777.54**
Stddev	8.1	1185.	43.3	2.70
%RSD	.26289	1.6116	.75645	.34660
#1	3078.1	72677.	5750.2	779.44
#2	3066.6	74352.	5689.0	775.63

Sample Name: ICB Acquired: 12/5/2011 14:05:29 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0019**	**.0020**	**-.0015**	**.0009**	**.00003**	**.0017**	**.0001**
Stddev	.0004	.0008	.0015	.0008	.0001	.00006	.0005	.0000
%RSD	144.3	41.91	74.89	56.12	9.122	194.32	31.75	23.33
#1	.0006	-.0014	.0010	-.0009	.0009	.00007	.0013	.0001
#2	.0000	-.0025	.0031	-.0021	.0008	-.00001	.0021	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0073**	**.0011**	**.0003**	**-.0004**	**.0001**	**.0005**	**.0003**
Stddev	.0001	.0000	.0001	.0001	.0001	.0006	.0006	.0009
%RSD	61.72	.0854	10.85	31.86	31.03	545.4	100.9	279.7
#1	.0002	.0073	.0012	.0004	-.0003	.0006	.0002	.0010
#2	.0001	.0073	.0010	.0002	-.0005	-.0003	.0009	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0031**	**.0013**	**.0010**	**.0000**	**.0002**	**.0016**	**-.0007**
Stddev	.0004	.0135	.0000	.0004	.0000	.0008	.0003	.0001
%RSD	147.5	440.1	.1207	39.72	117.1	503.4	17.99	10.68
#1	.0000	-.0065	.0013	.0007	.0000	-.0004	.0018	-.0007
#2	-.0006	.0126	.0013	.0013	.0000	.0007	.0014	-.0006
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: ICB Acquired: 12/5/2011 14:05:29 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0126**	**.0036**	**.0008**	**-.0059**	**.0013**	**-.0002**	**.0000**	**.0001**
Stddev	.0071	.0036	.0001	.0082	.0001	.0004	.0001	.0001
%RSD	56.64	99.91	17.58	139.2	5.533	191.3	5580.	88.75
#1	.0176	.0011	.0008	-.0001	.0012	-.0005	.0001	.0000
#2	.0075	.0061	.0007	-.0117	.0013	.0001	-.0001	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0036**	**.0166**	**.0002**	**-.0007**	**.0007**	**.00003**	**-.0005**	**-.0092**
Stddev	.0052	.0023	.0001	.0001	.0009	.00007	.0006	.0049
%RSD	146.1	14.15	37.83	19.16	128.7	232.78	121.9	53.80
#1	.0072	.0183	.0002	-.0006	.0001	.00008	-.0001	-.0126
#2	-.0001	.0149	.0003	-.0008	.0013	-.00002	-.0009	-.0057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3079.3**	**74882.**	**5285.2**	**795.31**
Stddev	8.8	703.	470.3	1.73
%RSD	.28729	.93904	8.8985	.21694
#1	3073.1	75380.	4952.7	794.09
#2	3085.6	74385.	5617.8	796.53

Sample Name: LLICV Acquired: 12/5/2011 14:07:55 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-65-B 0.5/50

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0545**	**.0516**	**.0522**	**.0991**	**.0056**	**.00545**	**.0546**	**.0052**
Stddev	.0000	.0004	.0039	.0020	.0002	.00013	.0009	.0001
%RSD	.0611	.8114	7.557	1.972	2.807	2.2943	1.664	1.244
#1	.0545	.0519	.0494	.0977	.0055	.00554	.0539	.0051
#2	.0545	.0513	.0550	.1005	.0057	.00537	.0552	.0052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0053**	**.0558**	**.0498**	**.0056**	**.0107**	**.0101**	**.0103**	**.0145**
Stddev	.0001	.0063	.0006	.0003	.0003	.0002	.0001	.0011
%RSD	2.417	11.32	1.263	5.352	2.639	1.790	.6887	7.456
#1	.0052	.0514	.0502	.0059	.0109	.0102	.0104	.0152
#2	.0054	.0603	.0493	.0054	.0105	.0099	.0102	.0137
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0518**	**.0471**	**.0210**	**.0193**	**.0053**	**.0047**	**.0104**	**.0193**
Stddev	.0001	.0107	.0002	.0010	.0000	.0005	.0002	.0005
%RSD	.1640	22.68	1.018	5.364	.2456	9.888	1.509	2.434
#1	.0519	.0395	.0212	.0200	.0053	.0044	.0103	.0190
#2	.0518	.0546	.0209	.0186	.0053	.0050	.0105	.0197
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: LLICV Acquired: 12/5/2011 14:07:55 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-65-B 0.5/50

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4285**	**.1031**	**.0105**	**.2089**	**.0490**	**.0094**	**.0101**	**.0103**
Stddev	.0193	.0029	.0002	.0042	.0002	.0000	.0001	.0000
%RSD	4.493	2.790	1.843	2.013	.3751	.0701	.5170	.3832
#1	.4422	.1051	.0106	.2119	.0489	.0094	.0101	.0102
#2	.4149	.1010	.0103	.2059	.0491	.0094	.0101	.0103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2005**	**.4146**	**.0099**	**.1001**	**.0115**	**.01034**	**.0019**	**-.0032**
Stddev	.0011	.0074	.0001	.0005	.0006	.00018	.0025	.0031
%RSD	.5251	1.793	1.134	.4830	5.310	1.7097	132.1	98.35
#1	.1998	.4198	.0099	.1004	.0110	.01046	.0036	-.0053
#2	.2012	.4093	.0100	.0998	.0119	.01021	.0001	-.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3078.1	74713.	5601.0	793.66
Stddev	20.4	313.	32.0	5.10
%RSD	.66140	.41877	.57127	.64227
#1	3092.5	74492.	5578.4	797.27
#2	3063.7	74934.	5623.6	790.06

Sample Name: TLLICV Acquired: 12/5/2011 14:10:20 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-71-B 0.5/50

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**-.0002**	**.0123**	**.0073**	**.0025**	**.00021**	**.0126**
Stddev	.0002	.0019	.0011	.0009	.0002	.00001	.0008
%RSD	8.490	1242.	8.990	11.89	6.719	2.6339	6.730
#1	.0026	-.0015	.0115	.0079	.0024	.00021	.0120
#2	.0023	.0012	.0131	.0067	.0026	.00021	.0132
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0006**	**.0061**	**.0036**	**.0026**	**.0012**	**.0020**
Stddev	.0000	.0000	.0006	.0000	.0003	.0001	.0003
%RSD	8.571	4.970	9.273	1.284	11.98	6.348	16.40
#1	.0005	.0006	.0065	.0036	.0023	.0012	.0023
#2	.0006	.0006	.0057	.0035	.0028	.0013	.0018
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cu3273	Fe2599	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0022**	**.0089**	**.0105**	**.0073**	**.0022**	**.0002**	**.0005**
Stddev	.0002	.0014	.0009	.0260	.0000	.0013	.0001
%RSD	10.39	15.88	8.226	357.0	2.100	760.5	14.73
#1	.0020	.0100	.0111	.0257	.0021	.0011	.0004
#2	.0024	.0079	.0099	-.0111	.0022	-.0008	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass
Value							
Range							

Sample Name: TLLICV Acquired: 12/5/2011 14:10:20 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-71-B 0.5/50

Elem	Mn2605	Mo2020	Ni2216	K_7664	Se1960	Ag3280 ①	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0022**	**.0017**	**.1157**	**.0187**	F **.0027**	**.2102**
Stddev	.0008	.0001	.0001	.0159	.0012	.0007	.0134
%RSD	570.4	6.220	3.504	13.73	6.207	27.07	6.358
#1	.0004	.0021	.0017	.1269	.0178	.0032	.2007
#2	-.0007	.0023	.0017	.1045	.0195	.0022	.2196
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value						.0020	
Range						30.00%	

Rerun 12/5/11

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0099**	F **.0013**	**.0022**	**.0022**	**.0216**	**.0582**	**.0008**
Stddev	.0001	.0002	.0003	.0001	.0056	.0067	.0002
%RSD	1.420	12.49	12.84	4.516	25.77	11.59	24.77
#1	.0100	.0014	.0020	.0021	.0177	.0629	.0007
#2	.0098	.0012	.0024	.0022	.0256	.0534	.0010
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0020					
Range		-30.00%					

Elem	Tl1908	Li6707	Sr4077 ①	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.0098**	**.0096**	F **.00029**	**.0515**	**.0478**
Stddev	.0011	.0020	.00010	.0013	.0039
%RSD	11.35	20.72	34.924	2.598	8.186
#1	.0090	.0082	.00022	.0505	.0506
#2	.0105	.0110	.00036	.0524	.0450
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value			.00020		
Range			30.000%		

① see 2x rerun 12/5/11

Sample Name: TLLICV Acquired: 12/5/2011 14:10:20 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-71-B 0.5/50

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3078.9	75121.	5711.2	797.27
Stddev	2.7	685.	24.6	2.41
%RSD	.08782	.91162	.43086	.30194
#1	3077.0	75606.	5728.6	798.97
#2	3080.8	74637.	5693.8	795.57

Sample Name: TLLICV Acquired: 12/5/2011 14:12:52 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**-.0002**	**.0095**	**.0101**	F **.0027**	**.00017**	**.0128**
Stddev	.0003	.0009	.0000	.0004	.0002	.00006	.0004
%RSD	11.72	388.6	.0946	4.342	7.203	33.403	3.439
#1	.0025	.0004	.0095	.0105	.0026	.00021	.0131
#2	.0022	-.0009	.0095	.0098	.0029	.00013	.0125
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value					.0020		
Range					30.00%		

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	F **.0007**	**.0074**	**.0036**	**.0026**	**.0012**	**.0020**
Stddev	.0000	.0002	.0006	.0000	.0001	.0001	.0003
%RSD	7.504	30.38	8.035	.3733	5.671	11.01	13.34
#1	.0006	.0008	.0070	.0036	.0025	.0011	.0018
#2	.0005	.0005	.0078	.0036	.0027	.0013	.0022
Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0005					
Range		30.00%					

Elem	Cu3273	Fe2599	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.0076**	**.0096**	**.0169**	**.0022**	**.0017**	**.0005**
Stddev	.0003	.0012	.0003	.0046	.0000	.0008	.0001
%RSD	14.26	16.18	3.275	27.53	1.603	43.79	11.10
#1	.0026	.0085	.0094	.0201	.0022	.0012	.0005
#2	.0021	.0067	.0098	.0136	.0022	.0023	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass
Value							
Range							

Sample Name: TLLICV Acquired: 12/5/2011 14:12:52 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: RERUN

Elem	Mn2605	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0023**	F **.0014**	**.1241**	**.0205**	F **.0031**	**.2088**
Stddev	.0007	.0002	.0001	.0129	.0021	.0005	.0120
%RSD	122.5	8.969	5.915	10.42	10.34	14.75	5.724
#1	-.0010	.0021	.0015	.1333	.0190	.0028	.2004
#2	-.0001	.0024	.0013	.1150	.0220	.0034	.2173
Check ?	None	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value			.0020			.0020	
Range			-30.00%			30.00%	

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0111**	**.0018**	**.0022**	**.0023**	**.0226**	**.0544**	**.0010**
Stddev	.0003	.0000	.0000	.0000	.0001	.0018	.0002
%RSD	2.376	1.171	.8667	1.017	.3273	3.390	15.95
#1	.0109	.0018	.0022	.0023	.0226	.0531	.0009
#2	.0113	.0018	.0022	.0022	.0225	.0557	.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.0092**	**.0094**	F **.00035**	**.0506**	**.0453**
Stddev	.0008	.0026	.00000	.0000	.0002
%RSD	8.314	28.03	.49894	.0730	.4087
#1	.0097	.0076	.00036	.0506	.0454
#2	.0087	.0113	.00035	.0506	.0451
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value			.00020		
Range			30.000%		

Sample Name: TLLICV Acquired: 12/5/2011 14:12:52 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: RERUN

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3082.9	73875.	5658.9	797.83
Stddev	18.8	439.	15.3	6.24
%RSD	.60991	.59413	.27084	.78151
#1	3069.6	74185.	5648.1	793.42
#2	3096.2	73564.	5669.8	802.24

Sample Name: ICVB Acquired: 12/5/2011 14:16:23 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **12.86**	**20.50**	F **.0032**	F **2.008**	F **20.80**	F **-.00001**	F **.0044**
Stddev	.03	.02	.0006	.008	.11	.00001	.0003
%RSD	.2301	.0877	19.00	.3785	.5231	62.832	7.820
#1	12.84	20.51	.0027	2.003	20.88	-.00001	.0046
#2	12.88	20.48	.0036	2.013	20.73	-.00002	.0041
Check ?	Chk Fail	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.0040		.0200	.0200	.0040	.00040	.0200
Range	30.00%		-30.00%	30.00%	30.00%	-30.000%	-30.00%

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0000**	F **.0000**	**20.39**	F **19.06**	F **.0001**	F **.0003**	F **.0009**
Stddev	.000	.0001	.10	.42	.0001	.0002	.0000
%RSD	230.6	303.0	.5132	2.195	115.0	56.84	4.021
#1	.0000	.0000	20.47	19.36	.0001	.0002	.0008
#2	-.0001	.0001	20.32	18.77	.0000	.0004	.0009
Check ?	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.0010	.0010		.0080	.0040	.0020	.0040
Range	-30.00%	-30.00%		30.00%	-30.00%	-30.00%	-30.00%

Elem	Cu3273	Fe2599	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0001**	F **20.07**	F **.0044**	**21.06**	F **19.48**	**20.14**	F **2.077**
Stddev	.0009	.12	.0007	.20	.10	.03	.010
%RSD	1171.	.6046	16.30	.9437	.5271	.1506	.5005
#1	.0007	20.15	.0039	21.20	19.40	20.12	2.070
#2	-.0006	19.98	.0049	20.92	19.55	20.17	2.084
Check ?	Chk Fail	Chk Fail	Chk Fail	None	Chk Fail	None	Chk Fail
Value	.0040	.0200	.0200		.0040		.0012
Range	-30.00%	30.00%	-30.00%		30.00%		30.00%

NK 12/5/11

Sample Name: ICVB Acquired: 12/5/2011 14:16:23 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment:

Elem	Mn2605	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.090**	F **.0000**	F **-.0006**	F **20.10**	F **.0027**	F **.0007**	F **20.30**
Stddev	.006	.0005	.0004	.06	.0010	.0000	.05
%RSD	.3022	1181.	59.71	.3062	37.78	4.459	.2393
#1	2.086	.0004	-.0004	20.06	.0035	.0007	20.34
#2	2.095	-.0003	-.0009	20.14	.0020	.0007	20.27
Check ?	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value		.0040	.0040	.2000	.0400	.0040	.4000
Range		-30.00%	-30.00%	30.00%	-30.00%	-30.00%	30.00%

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0005**	**.0050**	F **.0002**	F **.0003**	F **20.23**	F **19.70**	F **.0008**
Stddev	.0015	.0004	.0001	.0000	.01	.01	.0001
%RSD	287.9	7.136	36.00	11.28	.0700	.0437	10.35
#1	-.0005	.0048	.0001	.0002	20.22	19.70	.0007
#2	.0016	.0053	.0002	.0003	20.24	19.69	.0009
Check ?	Chk Fail	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.0200		.0040	.0040	.0400	.1000	.0020
Range	-30.00%		-30.00%	-30.00%	30.00%	30.00%	-30.00%

Elem	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0002**	F **2.053**	F **2.0441**	F **1.987**	F **1.984**
Stddev	.0024	.004	.0190	.012	.004
%RSD	1487.	.1701	.92877	.6250	.2098
#1	.0016	2.055	2.0575	1.979	1.987
#2	-.0019	2.050	2.0307	1.996	1.981
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.0200	.0200	.00040	.1000	.1000
Range	-30.00%	30.00%	30.000%	30.00%	30.00%

12/5/11

Sample Name: ICVB Acquired: 12/5/2011 14:16:23 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment:

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3002.6	71213.	5608.4	751.02
Stddev	8.2	57.	63.0	2.50
%RSD	.27287	.07981	1.1228	.33296
#1	3008.4	71253.	5563.9	752.79
#2	2996.8	71173.	5653.0	749.25

12/5/11

Sample Name: TLLICV 2X Acquired: 12/5/2011 14:19:48 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-71-B 1/50

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0047**	**.0056**	**.0216**	**.0202**	**.0049**	**.00042**	**.0228**	**.0010**
Stddev	.0002	.0007	.0027	.0003	.0004	.00002	.0006	.0001
%RSD	4.192	12.74	12.64	1.432	7.595	4.6933	2.516	5.972
#1	.0048	.0051	.0197	.0200	.0052	.00044	.0224	.0010
#2	.0046	.0061	.0236	.0204	.0046	.00041	.0232	.0009
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0111**	**.0082**	**.0045**	**.0019**	**.0039**	**.0042**	**.0154**
Stddev	.0001	.0025	.0001	.0002	.0001	.0005	.0003	.0005
%RSD	11.10	22.90	1.250	4.862	3.216	11.83	7.675	2.974
#1	.0012	.0129	.0081	.0047	.0019	.0042	.0044	.0157
#2	.0010	.0093	.0082	.0044	.0019	.0036	.0039	.0151
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0193**	**.0034**	**.0046**	**.0032**	**.0012**	**.0014**	**.0043**	**.0033**
Stddev	.0012	.0156	.0001	.0003	.0000	.0004	.0004	.0003
%RSD	6.359	454.0	1.871	10.85	3.294	26.73	9.890	8.309
#1	.0184	.0145	.0046	.0034	.0012	.0011	.0040	.0035
#2	.0202	-.0076	.0045	.0029	.0013	.0017	.0046	.0031
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: TLLICV 2X Acquired: 12/5/2011 14:19:48 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-71-B 1/50

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2395**	**.0394**	**.0046**	**.3869**	**.0205**	**.0036**	**.0044**	**.0042**
Stddev	.0590	.0023	.0006	.0129	.0007	.0004	.0002	.0001
%RSD	24.63	5.797	12.52	3.323	3.499	10.27	4.175	1.427
#1	.1978	.0411	.0050	.3778	.0210	.0038	.0042	.0043
#2	.2812	.0378	.0042	.3960	.0200	.0033	.0045	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0387**	**.1057**	**.0019**	**.0189**	**.0205**	**.00052**	**.0995**	**.0904**
Stddev	.0040	.0069	.0002	.0003	.0026	.00004	.0008	.0027
%RSD	10.29	6.575	8.576	1.514	12.84	8.5300	.7619	3.019
#1	.0415	.1007	.0020	.0191	.0186	.00049	.0989	.0924
#2	.0359	.1106	.0018	.0187	.0224	.00055	.1000	.0885
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3041.0**	**72610.**	**5616.4**	**783.31**
Stddev	24.6	676.	15.0	7.29
%RSD	.80880	.93067	.26710	.93040
#1	3023.6	72132.	5605.8	778.16
#2	3058.4	73088.	5627.0	788.47

Sample Name: CCVB1 Acquired: 12/5/2011 14:25:43 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.907**	**10.02**	**.0016**	**.9720**	**9.976**	**-.00004**	**.0021**	**.0000**
Stddev	.103	.06	.0015	.0076	.215	.00010	.0008	.000
%RSD	1.298	.5556	93.22	.7807	2.157	248.24	37.46	190.0
#1	8.030	10.03	.0020	.9798	10.05	.00010	.0029	.0000
#2	7.946	10.09	.0002	.9773	9.798	-.00014	.0026	-.0001
#3	7.856	10.00	.0036	.9665	9.811	-.00003	.0011	.0000
#4	7.796	9.956	.0007	.9646	10.25	-.00010	.0019	.0000
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**9.983**	**9.521**	**.0003**	**.0001**	**-.0001**	**.0003**	**9.792**
Stddev	.0000	.054	.094	.0004	.0003	.0003	.0008	.058
%RSD	56.24	.5406	.9839	146.3	636.3	323.7	233.7	.5870
#1	.0001	9.948	9.410	.0008	.0002	.0001	.0006	9.734
#2	.0000	9.936	9.544	-.0001	.0002	.0000	.0006	9.771
#3	.0001	9.994	9.495	.0002	-.0004	-.0006	-.0008	9.791
#4	.0001	10.05	9.634	.0001	.0003	.0001	.0010	9.870
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Sample Name: CCVB1 Acquired: 12/5/2011 14:25:43 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0022**	**10.22**	**9.627**	**9.978**	**1.022**	**.9879**	**-.0001**	**-.0005**
Stddev	.0005	.09	.060	.031	.007	.0090	.0002	.0001
%RSD	22.02	.8754	.6197	.3072	.7231	.9115	246.7	16.53
#1	.0022	10.18	9.645	9.990	1.025	.9839	-.0001	-.0005
#2	.0024	10.12	9.595	9.935	1.028	.9771	-.0003	-.0006
#3	.0027	10.32	9.566	9.981	1.023	.9952	.0000	-.0004
#4	.0015	10.28	9.702	10.01	1.011	.9954	.0001	-.0005
Check ?	None	Chk Pass	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.701**	**-.0012**	**.0003**	**10.11**	**.0003**	**.0026**	**.0002**	**.0002**
Stddev	.019	.0013	.0002	.03	.0007	.0004	.0003	.0001
%RSD	.1933	109.9	47.60	.3338	250.0	14.30	152.3	30.49
#1	9.702	-.0010	.0006	10.12	-.0004	.0023	-.0001	.0001
#2	9.679	.0000	.0003	10.06	.0012	.0025	.0000	.0002
#3	9.725	-.0030	.0003	10.13	.0003	.0031	.0004	.0003
#4	9.700	-.0007	.0002	10.12	.0000	.0024	.0003	.0001
Check ?	Chk Pass	None	None	Chk Pass	None	None	None	None
Value								
Range								

Sample Name: CCVB1 Acquired: 12/5/2011 14:25:43 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.720**	**9.612**	**.0002**	**.0001**	**1.010**	**.99184**	**.9695**	**.9547**
Stddev	.096	.047	.0001	.0007	.007	.00629	.0122	.0080
%RSD	.9893	.4895	43.25	1138.	.6882	.63402	1.260	.8423
#1	9.793	9.644	.0001	-.0001	1.007	.98582	.9837	.9607
#2	9.803	9.658	.0002	.0006	1.002	.98791	.9720	.9586
#3	9.681	9.558	.0001	.0005	1.016	.99387	.9682	.9567
#4	9.602	9.587	.0002	-.0008	1.016	.99977	.9541	.9429
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3028.5**	**72744.**	**5595.2**	**771.42**
Stddev	13.5	110.	21.5	5.29
%RSD	.44724	.15062	.38447	.68602
#1	3010.2	72765.	5618.1	765.12
#2	3027.8	72765.	5603.0	769.02
#3	3034.1	72592.	5592.7	776.41
#4	3042.1	72854.	5566.9	775.11

Sample Name: CCVA1 Acquired: 12/5/2011 14:31:14 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.3577**	**.2429**	F **.2370**	**.2437**	**.2474**	**.24009**	**.2541**	F **.2370**
Stddev	.1342	.0045	.0056	.0080	.0013	.00112	.0023	.0035
%RSD	37.53	1.843	2.350	3.302	.5187	.46552	.8862	1.493
#1	.2482	.2374	.2420	.2386	.2487	.23885	.2524	.2400
#2	.2695	.2474	.2386	.2369	.2467	.23983	.2541	.2379
#3	.3705	.2413	.2382	.2448	.2481	.24012	.2527	.2382
#4	.5424	.2454	.2290	.2547	.2460	.24155	.2573	.2319
Check ?	Chk Fail	None	Chk Fail	None	None	Chk Pass	Chk Pass	Chk Fail
Value	.2500		.2500					.2500
Range	5.000%		-5.000%					-5.000%

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2411**	**.2427**	**.2401**	**.2426**	**.2377**	**.2382**	**.2449**	**.2323**
Stddev	.0037	.0045	.0016	.0015	.0034	.0034	.0016	.0028
%RSD	1.547	1.835	.6616	.6151	1.441	1.428	.6533	1.199
#1	.2443	.2450	.2421	.2411	.2402	.2404	.2435	.2300
#2	.2423	.2459	.2401	.2446	.2387	.2405	.2439	.2331
#3	.2420	.2361	.2399	.2429	.2392	.2387	.2449	.2359
#4	.2357	.2436	.2382	.2420	.2326	.2333	.2471	.2302
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Review wwk 12/5/11

Sample Name: CCVA1 Acquired: 12/5/2011 14:31:14 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2390**	**.2528**	**.2475**	**.2464**	**.2486**	**.2410**	**.2382**	**.2384**
Stddev	.0034	.0193	.0012	.0026	.0014	.0022	.0039	.0031
%RSD	1.408	7.633	.4875	1.042	.5774	.9156	1.644	1.298
#1	.2428	.2735	.2490	.2488	.2464	.2415	.2417	.2409
#2	.2408	.2354	.2464	.2432	.2496	.2433	.2400	.2397
#3	.2372	.2651	.2479	.2480	.2492	.2413	.2386	.2390
#4	.2354	.2374	.2466	.2456	.2490	.2380	.2327	.2339
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.406**	**.2413**	**.2502**	**.2531**	F **.2348**	**.2380**	F **.2355**	**.2396**
Stddev	.053	.0056	.0012	.0053	.0035	.0015	.0038	.0037
%RSD	2.201	2.302	.4621	2.107	1.474	.6155	1.600	1.546
#1	2.482	.2462	.2488	.2577	.2365	.2362	.2387	.2429
#2	2.359	.2421	.2504	.2483	.2357	.2389	.2369	.2412
#3	2.386	.2436	.2500	.2578	.2372	.2395	.2362	.2401
#4	2.398	.2334	.2516	.2488	.2297	.2374	.2301	.2344
Check ?	None	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Fail	Chk Pass
Value					.2500		.2500	
Range					-5.000%		-5.000%	

cmmm 12/5/11

Sample Name: CCVA1 Acquired: 12/5/2011 14:31:14 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0954**	**.1330**	**.2434**	F **.2364**	**.0000**	**.00009**	**.0162**	**.0053**
Stddev	.1206	.0100	.0012	.0020	.002	.00010	.0132	.0105
%RSD	126.4	7.521	.5081	.8487	4712.	110.32	81.55	196.7
#1	.0010	.1445	.2417	.2389	-.0007	-.00004	.0072	-.0035
#2	.0219	.1249	.2443	.2365	-.0014	.00017	.0083	-.0022
#3	.0922	.1244	.2443	.2363	-.0006	.00018	.0139	.0079
#4	.2666	.1381	.2434	.2340	.0025	.00007	.0355	.0191
Check ?	None	None	Chk Pass	Chk Fail	None	None	None	None
Value				.2500				
Range				-5.000%				

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3057.8**	**73728.**	**5601.5**	**789.80**
Stddev	7.6	388.	16.1	1.77
%RSD	.24899	.52570	.28764	.22420
#1	3063.8	73875.	5609.3	790.95
#2	3062.4	73323.	5610.4	791.05
#3	3047.0	73518.	5577.4	787.25
#4	3058.0	74198.	5608.9	789.96

12/5/11

Sample Name: CCVA1 Acquired: 12/5/2011 14:35:26 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2493**	**.2423**	**.2508**	**.2420**	**.2519**	**.24503**	**.2543**	**.2461**
Stddev	.0011	.0020	.0031	.0029	.0014	.00112	.0015	.0008
%RSD	.4264	.8098	1.244	1.213	.5499	.45646	.5948	.3229
#1	.2493	.2451	.2513	.2403	.2499	.24456	.2564	.2462
#2	.2486	.2405	.2526	.2460	.2529	.24475	.2532	.2449
#3	.2507	.2416	.2530	.2423	.2526	.24415	.2533	.2468
#4	.2484	.2421	.2462	.2393	.2523	.24666	.2544	.2463
Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2516**	**.2547**	**.2460**	**.2483**	**.2454**	**.2458**	**.2477**	**.2388**
Stddev	.0013	.0026	.0014	.0016	.0014	.0007	.0011	.0009
%RSD	.5337	1.002	.5687	.6468	.5695	.2715	.4632	.3974
#1	.2513	.2536	.2439	.2481	.2457	.2459	.2471	.2383
#2	.2516	.2530	.2468	.2461	.2459	.2448	.2465	.2402
#3	.2534	.2537	.2466	.2492	.2465	.2463	.2483	.2382
#4	.2502	.2585	.2467	.2498	.2433	.2461	.2491	.2385
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Sample Name: CCVA1 Acquired: 12/5/2011 14:35:26 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: RERUN

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2496**	**.2624**	**.2527**	**.2475**	**.2513**	**.2467**	**.2468**	**.2476**
Stddev	.0009	.0087	.0012	.0020	.0015	.0035	.0016	.0009
%RSD	.3451	3.300	.4793	.7917	.6039	1.401	.6303	.3668
#1	.2497	.2656	.2509	.2463	.2512	.2433	.2462	.2474
#2	.2484	.2502	.2533	.2458	.2493	.2454	.2474	.2484
#3	.2499	.2635	.2533	.2502	.2515	.2515	.2487	.2481
#4	.2504	.2705	.2534	.2476	.2530	.2467	.2451	.2464
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.441**	**.2469**	**.2484**	**.2493**	**.2445**	**.2452**	**.2426**	**.2468**
Stddev	.028	.0010	.0008	.0028	.0012	.0026	.0008	.0010
%RSD	1.159	.3927	.3033	1.132	.4914	1.063	.3390	.4020
#1	2.419	.2457	.2487	.2473	.2444	.2446	.2430	.2476
#2	2.477	.2467	.2479	.2488	.2429	.2420	.2414	.2470
#3	2.449	.2480	.2477	.2477	.2456	.2458	.2430	.2472
#4	2.418	.2473	.2493	.2534	.2452	.2483	.2431	.2454
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVA1 Acquired: 12/5/2011 14:35:26 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: RERUN

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0043**	**.1228**	**.2503**	**.2433**	**.0006**	**.00004**	**.0075**	**-.0028**
Stddev	.0040	.0027	.0013	.0014	.0018	.00007	.0025	.0016
%RSD	92.52	2.212	.5171	.5585	304.2	174.89	32.84	58.35
#1	-.0024	.1255	.2501	.2421	.0013	.00002	.0094	-.0016
#2	-.0103	.1235	.2486	.2427	.0026	-.00003	.0094	-.0019
#3	-.0025	.1190	.2508	.2452	-.0017	.00013	.0043	-.0025
#4	-.0020	.1234	.2517	.2432	.0002	.00003	.0068	-.0052
Check ?	None	None	Chk Pass	Chk Pass	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3051.1	72772.	5555.9	786.16
Stddev	13.0	271.	22.6	3.18
%RSD	.42630	.37195	.40651	.40452
#1	3055.8	72815.	5568.2	787.10
#2	3056.6	73090.	5525.8	790.25
#3	3031.8	72431.	5577.4	783.46
#4	3060.3	72749.	5552.2	783.83

Sample Name: CCB1 Acquired: 12/5/2011 14:40:26 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0019**	**.0008**	**.0008**	**.0004**	**-.00001**	**.0022**	**.0000**
Stddev	.0002	.0015	.0001	.0003	.0001	.00001	.0002	.000
%RSD	99.41	78.51	8.845	33.37	19.10	181.41	9.130	90.33
#1	.0003	-.0029	.0008	.0010	.0003	.00000	.0021	.0000
#2	.0000	-.0008	.0009	.0006	.0004	-.00001	.0024	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0085**	**.0003**	**.0002**	**.0000**	**-.0001**	**-.0005**	**-.0014**
Stddev	.0001	.0038	.0000	.0003	.000	.0001	.0008	.0000
%RSD	115.0	44.96	12.24	160.4	600.3	117.8	167.4	.7836
#1	.0002	.0058	.0002	.0000	.0001	.0000	-.0010	-.0015
#2	.0000	.0112	.0003	.0004	-.0002	-.0002	.0001	-.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0186**	**.0000**	**.0005**	**-.0001**	**-.0005**	**.0001**	**-.0006**
Stddev	.0004	.0054	.0000	.0014	.0000	.0022	.0003	.0002
%RSD	45.25	29.02	429.8	259.2	45.36	430.4	185.7	31.71
#1	.0006	.0224	.0000	-.0004	.0000	.0010	.0000	-.0004
#2	.0012	.0148	.0000	.0015	-.0001	-.0020	.0003	-.0007
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB1 Acquired: 12/5/2011 14:40:26 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0429**	**.0014**	**.0001**	**-.0025**	**.0007**	**-.0004**	**.0001**	**.0000**
Stddev	.0503	.0019	.0000	.0009	.0009	.0001	.0001	.000
%RSD	117.1	133.8	24.59	36.45	133.0	22.87	109.3	525.1
#1	.0784	.0027	.0002	-.0018	.0000	-.0005	.0002	-.0001
#2	.0074	.0001	.0001	-.0031	.0013	-.0003	.0000	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0011**	**.0001**	**-.0003**	**.0012**	**.00004**	**.0002**	**-.0054**
Stddev	.0084	.0013	.0000	.0004	.0030	.00008	.0018	.0002
%RSD	541.4	121.6	62.47	132.1	258.4	206.96	742.1	4.242
#1	.0075	-.0002	.0000	-.0006	-.0010	-.00002	-.0010	-.0056
#2	-.0044	-.0020	.0001	.0000	.0033	.00010	.0015	-.0052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3021.7**	**72212.**	**5579.0**	**775.60**
Stddev	13.4	174.	55.4	3.65
%RSD	.44346	.24051	.99253	.47003
#1	3012.2	72335.	5618.2	773.02
#2	3031.2	72089.	5539.9	778.17

Sample Name: ICSA Acquired: 12/5/2011 14:44:53 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-61-C

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.21**	**463.2**	**.0077**	**.0072**	**.0019**	**-.00012**	**.0030**	**-.0011**
Stddev	.05	4.4	.0068	.0001	.0001	.00000	.0004	.0003
%RSD	.1942	.9537	88.21	.8024	4.086	3.5220	12.40	26.88
#1	24.24	466.4	.0029	.0072	.0019	-.00012	.0033	-.0013
#2	24.18	460.1	.0124	.0071	.0018	-.00013	.0028	-.0009
Check ?	None	Chk Pass	None	None	None	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**478.2**	*****	**.0067**	**-.0042**	**.0098**	**-.0010**	**186.0**
Stddev	.0000	9.5	-----	.0002	.0000	.0012	.0002	.3
%RSD	.9832	1.980	-----	3.296	.5480	12.67	16.01	.1759
#1	.0016	471.5	-----	.0065	-.0042	.0089	-.0011	186.3
#2	.0016	484.8	-----	.0068	-.0042	.0106	-.0009	185.8
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0158**	**527.0**	*****	**393.0**	**-.0026**	**-.0065**	**.0011**	**-.0016**
Stddev	.0010	2.7	-----	9.9	.0001	.0011	.0007	.0001
%RSD	6.522	.5202	-----	2.523	2.298	17.38	64.04	5.810
#1	.0151	525.0	-----	386.0	-.0026	-.0073	.0016	-.0016
#2	.0165	528.9	-----	400.0	-.0025	-.0057	.0006	-.0017
Check ?	None	Chk Pass	None	None	None	None	None	None
Value								
Range								

Sample Name: ICSA Acquired: 12/5/2011 14:44:53 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-61-C

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0532**	**.0048**	**-.0006**	**.0490**	**.0020**	**-.0003**	**.0010**	**.0004**
Stddev	.0189	.0027	.0003	.0028	.0002	.0005	.0003	.0002
%RSD	35.59	56.97	52.18	5.770	12.39	158.5	29.65	46.36
#1	.0665	.0067	-.0008	.0470	.0018	-.0007	.0008	.0003
#2	.0398	.0028	-.0004	.0511	.0021	.0000	.0012	.0006
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0904**	**.0112**	**.0015**	**-.0004**	**.0101**	**.05614**	**-.0032**	**-.0207**
Stddev	.0148	.0008	.0002	.0024	.0021	.00011	.0008	.0045
%RSD	16.39	7.152	15.30	578.1	20.40	.19645	26.58	21.87
#1	-.0799	.0118	.0013	.0013	.0116	.05606	-.0026	-.0239
#2	-.1009	.0107	.0016	-.0021	.0086	.05621	-.0038	-.0175
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2751.8	64708.	5369.9	650.13
Stddev	5.8	398.	26.7	1.26
%RSD	.21070	.61563	.49632	.19442
#1	2747.7	64990.	5388.8	651.02
#2	2755.9	64426.	5351.1	649.23

Sample Name: ICSAB Acquired: 12/5/2011 14:47:56 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-70-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.95**	**452.9**	**.9061**	**.0085**	**.5012**	**.46396**	**.0128**	**.9665**
Stddev	.01	10.1	.0029	.0035	.0001	.00067	.0011	.0016
%RSD	.0237	2.227	.3219	40.47	.0262	.14450	8.471	.1656
#1	23.95	445.8	.9040	.0061	.5012	.46349	.0136	.9653
#2	23.94	460.1	.9081	.0110	.5011	.46444	.0120	.9676
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9044**	**472.2**	*****	**.4929**	**.4483**	**.5057**	**.4607**	**180.4**
Stddev	.0006	12.4	-----	.0019	.0001	.0021	.0009	.2
%RSD	.0660	2.617	-----	.3927	.0167	.4083	.2053	.0951
#1	.9039	463.4	-----	.4942	.4483	.5042	.4601	180.6
#2	.9048	480.9	-----	.4915	.4482	.5072	.4614	180.3
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.007**	**512.6**	*****	**403.0**	**.4782**	**.4934**	**.0002**	**.8726**
Stddev	.004	1.7	-----	2.3	.0049	.0074	.0003	.0004
%RSD	.3713	.3318	-----	.5692	1.031	1.505	129.9	.0476
#1	1.004	511.4	-----	404.6	.4817	.4987	.0000	.8723
#2	1.010	513.8	-----	401.4	.4747	.4882	.0004	.8729
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: ICSAB Acquired: 12/5/2011 14:47:56 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A ICP9-70-A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0294**	**.0049**	**.9357**	**.0496**	**.0021**	**.4990**	**.9574**	**.8728**
Stddev	.0177	.0033	.0014	.0078	.0015	.0038	.0023	.0001
%RSD	60.21	67.98	.1483	15.75	73.11	.7608	.2396	.0113
#1	.0169	.0073	.9366	.0551	.0010	.5016	.9557	.8728
#2	.0419	.0025	.9347	.0441	.0032	.4963	.9590	.8729
Check ?	None	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0977**	**3.327**	**.0011**	**-.0007**	**.0109**	**.05491**	**.0098**	**-.0221**
Stddev	.0010	.038	.0004	.0027	.0016	.00000	.0016	.0001
%RSD	1.048	1.140	37.59	364.6	14.37	.00903	16.43	.3708
#1	-.0985	3.354	.0014	-.0026	.0098	.05490	.0109	-.0220
#2	-.0970	3.301	.0008	.0012	.0120	.05491	.0086	-.0221
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2789.0	64569.	5471.1	658.19
Stddev	1.9	513.	30.9	.59
%RSD	.06676	.79518	.56502	.08949
#1	2787.7	64206.	5493.0	658.61
#2	2790.3	64932.	5449.3	657.78

Sample Name: RB Acquired: 12/5/2011 14:52:12 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0257**	**.0410**	**.0030**	**-.0005**	**.0003**	**.00002**	**.0001**	**.0001**
#1	.0291	.0446	.0022	-.0013	.0003	.00008	.0009	.0001
#2	.0223	.0375	.0039	.0003	.0003	-.00003	-.0006	.0001

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0662**	**.0646**	**.0003**	**.0000**	**-.0004**	**.0001**	**.0241**
#1	.0003	.0673	.0698	.0002	.0000	-.0004	.0005	.0259
#2	.0001	.0652	.0594	.0004	.0000	-.0003	-.0003	.0222

Elem	Pb2203	Mg2795	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013**	**.0658**	**.0664**	**-.0001**	**.0000**	**-.0007**	**.0289**	**-.0005**
#1	.0017	.0713	.0721	-.0001	.0002	-.0008	.0498	.0025
#2	.0009	.0603	.0608	-.0001	-.0002	-.0007	.0081	-.0034

Elem	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0007**	**.0008**	**-.0003**	**.0000**	**.0000**	**-.0016**	**.0072**
#1	.0009	.0025	.0009	-.0001	.0001	-.0001	-.0005	.0075
#2	.0001	-.0012	.0006	-.0005	.0000	.0000	-.0027	.0070

Elem	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0005**	**-.0004**	**.00007**	**.0021**	**-.0029**
#1	.0000	.0007	.0006	.00009	.0021	-.0083
#2	.0001	.0002	-.0013	.00005	.0021	.0025

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3110.7	74763.	5652.4	806.00
#1	3121.4	74614.	5618.3	810.81
#2	3100.0	74912.	5686.4	801.19

Sample Name: CCVB2 Acquired: 12/5/2011 14:55:14 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.828**	**9.899**	**.0044**	**.9682**	**9.816**	**.00000**	**.0030**	**.0000**
Stddev	.151	.025	.0017	.0191	.025	.00001	.0012	.0000
%RSD	1.931	.2536	38.23	1.974	.2580	632.78	41.17	243.1
#1	7.935	9.916	.0056	.9818	9.834	.00000	.0021	.0000
#2	7.721	9.881	.0032	.9547	9.798	.00001	.0039	.0000
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**9.924**	**9.448**	**.0002**	**.0000**	**.0001**	**.0000**	**9.750**
Stddev	.0000	.043	.201	.0004	.0003	.0005	.0005	.083
%RSD	24.01	.4339	2.130	188.8	872.5	724.1	3344.	.8461
#1	.0001	9.894	9.306	.0005	.0002	.0005	.0003	9.691
#2	.0001	9.955	9.591	-.0001	-.0002	-.0003	-.0003	9.808
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**10.32**	**9.669**	**9.847**	**1.017**	**.9980**	**-.0001**	**-.0005**
Stddev	.0014	:09	.073	.003	.003	.0029	.0002	.0000
%RSD	53.20	.8580	.7543	.0253	.2835	.2914	194.2	4.081
#1	.0016	10.26	9.721	9.849	1.019	1.000	-.0003	-.0005
#2	.0036	10.38	9.618	9.845	1.015	.9959	.0000	-.0005
Check ?	None	Chk Pass	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: CCVB2 Acquired: 12/5/2011 14:55:14 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.695**	**.0012**	**.0002**	**9.935**	**-.0002**	**.0024**	**.0000**	**.0002**
Stddev	.004	.0014	.0003	.010	.0003	.0002	.0002	.0001
%RSD	.0400	119.3	145.7	.1011	199.8	8.576	1993.	33.32
#1	9.692	.0002	.0000	9.943	-.0004	.0026	.0002	.0002
#2	9.698	.0022	.0004	9.928	.0001	.0023	-.0001	.0002
Check ?	Chk Pass	None	None	Chk Pass	None	None	None	None
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.747**	**9.515**	**.0002**	**-.0005**	**1.001**	**.98271**	**.9500**	**.9390**
Stddev	.215	.032	.0002	.0017	.003	.00271	.0221	.0157
%RSD	2.207	.3321	75.58	376.5	.3440	.27551	2.327	1.673
#1	9.899	9.493	.0001	-.0017	1.003	.98080	.9656	.9501
#2	9.595	9.538	.0003	.0008	.9982	.98462	.9343	.9279
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3071.0	72337.	5589.3	781.91
Stddev	6.1	50.	28.8	.07
%RSD	.19811	.06954	.51506	.00902
#1	3066.7	72372.	5609.7	781.86
#2	3075.3	72301.	5569.0	781.96

Sample Name: CCVA2 Acquired: 12/5/2011 14:58:59 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2493**	**.2488**	**.2522**	**.2437**	**.2512**	**.25040**	**.2567**	**.2446**
Stddev	.0020	.0038	.0012	.0037	.0012	.00067	.0010	.0028
%RSD	.8150	1.514	.4891	1.534	.4856	.26900	.3782	1.136
#1	.2508	.2514	.2513	.2463	.2503	.24993	.2560	.2466
#2	.2479	.2461	.2531	.2410	.2520	.25088	.2574	.2427
Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2485**	**.2492**	**.2475**	**.2487**	**.2446**	**.2436**	**.2538**	**.2455**
Stddev	.0019	.0007	.0012	.0023	.0031	.0033	.0001	.0017
%RSD	.7699	.2749	.4659	.9278	1.249	1.372	.0571	.6875
#1	.2499	.2487	.2466	.2471	.2468	.2460	.2537	.2443
#2	.2472	.2497	.2483	.2504	.2425	.2412	.2539	.2467
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2470**	**.2606**	**.2527**	**.2499**	**.2504**	**.2398**	**.2456**	**.2456**
Stddev	.0028	.0137	.0008	.0007	.0027	.0021	.0022	.0019
%RSD	1.125	5.267	.3225	.2863	1.090	.8819	.8834	.7618
#1	.2490	.2703	.2521	.2504	.2485	.2383	.2471	.2469
#2	.2450	.2509	.2533	.2494	.2523	.2413	.2441	.2443
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVA2 Acquired: 12/5/2011 14:58:59 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.426**	**.2515**	**.2523**	**.2471**	**.2437**	**.2465**	**.2419**	**.2496**
Stddev	.014	.0025	.0004	.0180	.0028	.0029	.0030	.0022
%RSD	.5756	1.010	.1480	7.306	1.158	1.173	1.242	.8987
#1	2.417	.2533	.2520	.2343	.2457	.2444	.2440	.2512
#2	2.436	.2497	.2525	.2598	.2417	.2485	.2398	.2480
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	**.1369**	**.2501**	**.2439**	**.0007**	**-.00004**	**.0053**	**-.0002**
Stddev	.0027	.0210	.0026	.0022	.0018	.00001	.0002	.0006
%RSD	157.9	15.34	1.057	.9042	260.7	11.332	4.572	285.9
#1	.0002	.1518	.2482	.2455	-.0006	-.00005	.0052	.0002
#2	-.0036	.1221	.2520	.2424	.0020	-.00004	.0055	-.0006
Check ?	None	None	Chk Pass	Chk Pass	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3108.1	74502.	5550.9	801.99
Stddev	3.2	762.	17.0	2.99
%RSD	.10191	1.0224	.30684	.37259
#1	3105.8	75041.	5563.0	799.88
#2	3110.3	73963.	5538.9	804.10

Sample Name: CCB2 Acquired: 12/5/2011 15:04:19 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**-.0034**	**.0050**	**-.0003**	**.0004**	**-.00002**	**.0024**	**.0000**
Stddev	.0002	.0016	.0027	.0013	.0000	.00002	.0004	.0000
%RSD	45.69	47.34	55.28	411.4	10.75	109.19	17.94	32.21
#1	.0007	-.0045	.0069	-.0013	.0005	-.00003	.0021	.0000
#2	.0003	-.0023	.0030	.0006	.0004	.00000	.0027	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0063**	**.0005**	**.0000**	**.0000**	**-.0002**	**.0000**	**-.0008**
Stddev	.0001	.0091	.0001	.000	.0002	.0003	.0000	.0008
%RSD	82.09	145.8	17.49	723.4	493.2	170.4	1304.	109.1
#1	.0000	.0127	.0005	-.0002	-.0001	-.0004	.0000	-.0014
#2	.0001	-.0002	.0004	.0002	.0002	.0000	.0000	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0025**	**.0004**	**-.0013**	**-.0001**	**-.0002**	**.0000**	**-.0008**
Stddev	.0004	.0109	.0001	.0006	.0001	.0000	.000	.0002
%RSD	185.5	429.4	15.14	48.63	80.80	8.842	1764.	26.88
#1	-.0001	.0103	.0004	-.0008	-.0001	-.0002	.0002	-.0010
#2	.0005	-.0052	.0003	-.0017	-.0002	-.0002	-.0003	-.0007
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB2 Acquired: 12/5/2011 15:04:19 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0327**	**.0012**	**.0005**	**-.0069**	**.0002**	**-.0011**	**.0000**	**.0001**
Stddev	.0072	.0031	.0005	.0050	.0000	.0004	.0002	.0000
%RSD	21.88	256.0	107.3	72.78	6.533	40.73	1770.	48.90
#1	.0378	-.0010	.0008	-.0104	.0002	-.0008	.0001	.0001
#2	.0276	.0034	.0001	-.0033	.0002	-.0014	-.0001	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0030**	**-.0089**	**-.0001**	**-.0016**	**-.0015**	**.00010**	**.0008**	**-.0052**
Stddev	.0013	.0046	.0002	.0009	.0012	.00014	.0004	.0012
%RSD	45.57	51.90	425.6	57.05	75.43	132.16	51.90	22.80
#1	-.0039	-.0121	-.0002	-.0022	-.0007	.00020	.0011	-.0044
#2	-.0020	-.0056	.0001	-.0009	-.0023	.00001	.0005	-.0061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3059.4**	**73932.**	**5686.5**	**790.79**
Stddev	5.6	343.	19.7	.74
%RSD	.18264	.46362	.34575	.09419
#1	3063.3	73689.	5672.6	791.32
#2	3055.4	74174.	5700.4	790.27

Sample Name: K1110169-MB 1/2 Acquired: 12/5/2011 15:06:54 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0033**	**.0035**	**.0020**	**-.0024**	**.0004**	**-.00002**	**.0001**	**.0000**
#1	.0034	.0019	-.0005	-.0029	.0003	.00003	.0000	.0000
#2	.0032	.0052	.0045	-.0019	.0006	-.00008	.0002	.0000

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0121**	F **.0053**	**.0004**	**.0001**	**.0000**	**-.0001**	F **.0281**
#1	.0001	.0165	.0053	.0003	.0000	-.0001	.0005	.0273
#2	.0001	.0077	.0053	.0005	.0001	.0000	-.0008	.0290

Elem	Pb2203	Mg2795	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0012**	**.0011**	**.0002**	**-.0001**	**-.0011**	**.0644**	**.0007**
#1	.0016	.0011	.0023	.0002	-.0002	-.0013	.0572	.0012
#2	-.0002	.0012	.0000	.0002	.0000	-.0009	.0716	.0001

Elem	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0046**	**.0010**	**-.0005**	**.0008**	**.0011**	**-.0056**	**-.0071**
#1	.0003	-.0047	.0008	-.0005	.0008	.0011	-.0007	-.0050
#2	.0003	.0140	.0013	-.0005	.0007	.0011	-.0104	-.0091

Elem	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0039**	**.0007**	**.00002**	**.0018**	**-.0078**
#1	-.0003	-.0048	-.0004	.00010	.0033	-.0095
#2	-.0001	-.0029	.0019	-.00006	.0002	-.0061

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3081.7	74973.	5626.3	788.42
#1	3080.7	74836.	5645.3	788.54
#2	3082.8	75110.	5607.2	788.30

Sample Name: LL LCSW 1/2 Acquired: 12/5/2011 15:09:17 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0565**	**.0542**	**.0003**	**-.0004**	**.0033**	**-.00009**	**.0540**	**.0000**
#1	.0562	.0544	-.0002	-.0001	.0032	-.00010	.0538	.0000
#2	.0569	.0541	.0008	-.0007	.0034	-.00008	.0543	.0000

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0607**	**.0578**	**.0005**	**-.0001**	**-.0004**	**.0002**	**.0046**
#1	.0000	.0602	.0576	.0008	-.0002	-.0001	-.0008	.0030
#2	.0000	.0612	.0580	.0002	.0000	-.0008	.0012	.0062

Elem	Pb2203	Mg2795	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0010**	**.0232**	**.0245**	**.0108**	**-.0001**	**-.0009**	**.4581**	**.0025**
#1	-.0012	.0232	.0249	.0109	-.0003	-.0008	.4727	.0022
#2	-.0007	.0232	.0241	.0108	.0001	-.0011	.4435	.0028

Elem	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.2247**	**.0040**	**-.0007**	**.0114**	**.0115**	**.0252**	**.0004**
#1	.0004	.2168	.0043	.0000	.0113	.0115	.0225	.0003
#2	.0000	.2325	.0038	-.0013	.0116	.0114	.0279	.0005

Elem	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**-.0034**	**.0229**	**.00132**	**.0020**	**-.0035**
#1	.0011	-.0051	.0244	.00126	.0018	-.0046
#2	.0011	-.0018	.0213	.00138	.0022	-.0024

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3088.5**	**74649.**	**5647.4**	**794.43**
#1	3093.5	74684.	5611.4	795.72
#2	3083.4	74613.	5683.5	793.13

Sample Name: LCSW 1/2 Acquired: 12/5/2011 15:11:40 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.150**	**2.497**	**2.468**	**5.248**	**.12551**	**.5103**	**1.258**	**1.259**
#1	5.133	2.497	2.463	5.236	.12482	.5120	1.246	1.253
#2	5.168	2.497	2.473	5.260	.12620	.5086	1.270	1.266

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.05**	**12.49**	**.5186**	**1.267**	**.6334**	**.6360**	**2.524**	**2.567**
#1	13.06	12.41	.5189	1.261	.6279	.6341	2.507	2.545
#2	13.04	12.57	.5184	1.272	.6389	.6380	2.541	2.589

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.89**	**1.309**	**.5194**	**1.246**	**12.48**	**2.307**	**.6265**	**13.22**
#1	12.93	1.308	.5171	1.240	12.46	2.306	.6245	13.27
#2	12.86	1.310	.5217	1.251	12.50	2.308	.6285	13.18

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.055**	**1.297**	**1.245**	**1.217**	**1.018**	**.0130**	**1.050**	**2.552**
#1	1.044	1.291	1.233	1.215	1.015	.0145	1.046	2.534
#2	1.065	1.302	1.257	1.219	1.020	.0114	1.054	2.570

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**1.065**	**1.0455**	**.0259**	**-.0067**
#1	1.066	1.0434	.0259	-.0055
#2	1.064	1.0476	.0258	-.0079

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3051.5**	**72608.**	**5553.7**	**774.17**
#1	3062.7	72625.	5566.9	780.37
#2	3040.3	72591.	5540.4	767.97

Sample Name: LCSWD 1/2 Acquired: 12/5/2011 15:13:51 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.362**	**2.651**	**2.603**	**5.480**	**.13043**	**.5387**	**1.323**	**1.327**
#1	5.336	2.650	2.602	5.460	.12980	.5350	1.327	1.330
#2	5.388	2.651	2.604	5.500	.13106	.5424	1.318	1.323

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.64**	**13.14**	**.5419**	**1.329**	**.6663**	**.6649**	**2.592**	**2.721**
#1	13.60	13.11	.5399	1.332	.6701	.6598	2.581	2.733
#2	13.69	13.18	.5439	1.326	.6624	.6699	2.602	2.709

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.28**	**1.369**	**.5460**	**1.310**	**12.89**	**2.422**	**.6518**	**13.63**
#1	13.26	1.363	.5465	1.314	12.86	2.423	.6472	13.62
#2	13.30	1.375	.5454	1.305	12.93	2.420	.6564	13.64

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.125**	**1.345**	**1.304**	**1.283**	**1.082**	**.0032**	**1.109**	**2.683**
#1	1.129	1.341	1.309	1.284	1.089	.0069	1.105	2.692
#2	1.120	1.349	1.300	1.281	1.074	-.0006	1.113	2.675

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**1.160**	**1.0897**	**.0253**	**-.0058**
#1	1.159	1.0864	.0250	-.0063
#2	1.160	1.0931	.0256	-.0053

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3069.2	72290.	5487.9	776.11
#1	3065.3	72037.	5502.2	774.04
#2	3073.1	72543.	5473.6	778.18

Sample Name: K1110169-001 1/2 Acquired: 12/5/2011 15:16:03 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**58.18**	**.0011**	**.0364**	**.4805**	**.00272**	**.0117**	**.0013**	**.0012**
#1	58.26	-.0011	.0388	.4774	.00272	.0120	.0012	.0012
#2	58.10	.0033	.0341	.4836	.00272	.0114	.0013	.0012

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**20.62**	**.0784**	**.0289**	**.0552**	**.0487**	**97.84**	**.0596**	**25.00**
#1	20.51	.0788	.0292	.0556	.0484	97.10	.0588	24.84
#2	20.72	.0780	.0286	.0549	.0491	98.59	.0605	25.16

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.914**	**.0038**	**.0573**	**16.85**	**.0026**	**-.0010**	**.3103**	**.0063**
#1	1.923	.0037	.0571	16.76	.0036	-.0009	.3069	.0066
#2	1.904	.0039	.0574	16.94	.0016	-.0010	.3137	.0061

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1612**	**.2560**	**.2571**	**2.632**	**5.136**	**3.536**	**-.0029**	**.1055**
#1	.1615	.2547	.2564	2.617	5.092	3.549	-.0021	.1044
#2	.1609	.2573	.2579	2.648	5.180	3.523	-.0037	.1066

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.11015**	**-.0061**	**.8515**
#1	.10941	-.0072	.8457
#2	.11089	-.0050	.8573

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3258.8**	**76563.**	**5970.8**	**777.79**
#1	3257.0	76131.	5967.8	776.63
#2	3260.6	76995.	5973.9	778.95

Sample Name: K1110169-002 1/2 Acquired: 12/5/2011 15:18:27 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**79.42**	**.0045**	**.0517**	**.6357**	**.00395**	**.0143**	**.0018**	**.0015**
#1	78.49	.0024	.0532	.6354	.00390	.0145	.0018	.0014
#2	80.36	.0065	.0503	.6360	.00400	.0141	.0018	.0016

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.97**	**.1323**	**.0452**	**.0858**	**.0773**	**124.8**	**.0843**	**29.06**
#1	15.97	.1322	.0453	.0853	.0780	124.8	.0843	29.17
#2	15.96	.1324	.0452	.0863	.0767	124.7	.0844	28.95

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.447**	**.0044**	**.1156**	**25.13**	**.0079**	**-.0006**	**.3682**	**.0082**
#1	2.463	.0042	.1160	25.22	.0070	-.0007	.3620	.0082
#2	2.431	.0046	.1152	25.04	.0087	-.0004	.3743	.0082

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2266**	**.3573**	**.3523**	**1.895**	**3.355**	**4.196**	**-.0032**	**.1164**
#1	.2276	.3583	.3528	1.893	3.375	4.224	-.0024	.1153
#2	.2255	.3563	.3518	1.896	3.335	4.169	-.0039	.1175

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.12443**	**-.0048**	**.7883**
#1	.12449	-.0046	.7920
#2	.12438	-.0050	.7847

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3248.3**	**75680.**	**5907.8**	**763.28**
#1	3252.6	75245.	5929.1	764.14
#2	3244.0	76116.	5886.5	762.42

Sample Name: K1110169-003 1/2 Acquired: 12/5/2011 15:20:54 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.98**	**.0017**	**.0356**	**.3808**	**.00262**	**.0140**	**.0011**	**.0006**
#1	50.78	.0000	.0343	.3848	.00262	.0151	.0012	.0006
#2	51.19	.0034	.0368	.3768	.00262	.0129	.0009	.0006

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.37**	**.0712**	**.0271**	**.0534**	**.0461**	**94.59**	**.0932**	**21.91**
#1	23.55	.0712	.0274	.0539	.0455	95.39	.0941	21.89
#2	23.18	.0712	.0267	.0529	.0466	93.79	.0922	21.92

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.773**	**.0027**	**.0517**	**15.93**	**.0047**	**-.0004**	**.2486**	**.0074**
#1	1.770	.0029	.0517	15.96	.0023	.0000	.2511	.0073
#2	1.775	.0025	.0516	15.91	.0072	-.0007	.2461	.0075

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1424**	**.2721**	**.2668**	**2.704**	**5.586**	**3.040**	**-.0042**	**.0981**
#1	.1425	.2743	.2671	2.698	5.580	3.031	-.0045	.0981
#2	.1424	.2700	.2666	2.709	5.593	3.049	-.0040	.0982

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.09160**	**-.0104**	**.6073**
#1	.09236	-.0121	.6060
#2	.09085	-.0087	.6086

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3247.5	76237.	5976.3	760.79
#1	3231.5	76163.	5922.8	755.89
#2	3263.5	76310.	6029.7	765.69

Sample Name: K1110169-004 1/2 Acquired: 12/5/2011 15:23:18 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**148.4**	**.0003**	**.0530**	**1.237**	**.00337**	**.0115**	**.0014**	**.0010**
#1	148.0	.0026	.0543	1.241	.00336	.0136	.0014	.0009
#2	148.9	-.0020	.0518	1.233	.00339	.0094	.0014	.0011

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**37.40**	**.2696**	**.1272**	**.3498**	**.3384**	**211.0**	**.0665**	**68.16**
#1	37.55	.2689	.1282	.3501	.3380	211.9	.0655	68.19
#2	37.26	.2703	.1261	.3496	.3388	210.0	.0674	68.12

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.349**	**.0033**	**.2955**	**17.05**	**.0049**	**-.0008**	**3.912**	**.0108**
#1	3.324	.0031	.2961	17.07	.0056	-.0007	3.917	.0109
#2	3.375	.0035	.2949	17.03	.0041	-.0009	3.907	.0108

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3141**	**.4204**	**.4096**	**2.202**	**6.321**	**2.712**	**-.0022**	**.1056**
#1	.3134	.4228	.4086	2.204	6.343	2.698	-.0021	.1061
#2	.3149	.4181	.4106	2.201	6.300	2.726	-.0022	.1051

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.23083**	**-.0058**	**.6023**
#1	.23166	-.0056	.6005
#2	.23001	-.0061	.6042

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3264.3**	**75737.**	**6078.3**	**744.79**
#1	3247.8	75930.	6065.0	740.36
#2	3280.7	75545.	6091.5	749.23

Sample Name: K1110227-001 1/2 Acquired: 12/5/2011 15:25:48 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**86.89**	**-.0087**	**.0350**	**.6419**	**.00445**	**.0121**	**.0021**	**.0016**
#1	86.00	-.0060	.0313	.6423	.00452	.0126	.0021	.0017
#2	87.78	-.0114	.0387	.6415	.00438	.0117	.0020	.0015

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.36**	**.0786**	**.0777**	**.1659**	**.1368**	**241.8**	**.0585**	**29.29**
#1	23.35	.0791	.0776	.1671	.1371	240.4	.0583	29.34
#2	23.38	.0780	.0777	.1647	.1364	243.2	.0586	29.24

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.675**	**.0043**	**.0813**	**9.825**	**.0031**	**-.0014**	**2.942**	**.0147**
#1	3.713	.0044	.0811	9.831	.0051	-.0014	2.944	.0136
#2	3.636	.0042	.0815	9.818	.0011	-.0013	2.941	.0159

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3803**	**.4098**	**.4136**	**4.054**	**5.330**	**2.711**	**.0013**	**.0624**
#1	.3814	.4090	.4140	4.071	5.332	2.721	.0014	.0640
#2	.3792	.4107	.4132	4.037	5.328	2.702	.0012	.0608

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.24019**	**-.0051**	**5.859**
#1	.24008	-.0063	5.879
#2	.24031	-.0040	5.838

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3540.8	83384.	6608.8	773.83
#1	3549.8	83320.	6610.6	776.64
#2	3531.7	83448.	6607.0	771.01

Sample Name: K1110363-001 1/2 Acquired: 12/5/2011 15:28:24 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**69.50**	**.0009**	**.0805**	**.4430**	**.00434**	**.0111**	**.0010**	**.0008**
#1	69.39	.0025	.0804	.4448	.00438	.0117	.0010	.0007
#2	69.61	-.0008	.0807	.4412	.00431	.0104	.0010	.0009

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.53**	**.1287**	**.0543**	**.1169**	**.1099**	**140.6**	**.0749**	**30.48**
#1	18.61	.1293	.0535	.1160	.1100	141.1	.0735	30.39
#2	18.45	.1281	.0551	.1179	.1098	140.1	.0762	30.56

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.500**	**.0047**	**.1542**	**20.96**	**.0034**	**-.0015**	**.3262**	**.0098**
#1	2.506	.0048	.1537	21.01	.0047	-.0015	.3224	.0097
#2	2.493	.0046	.1547	20.92	.0021	-.0016	.3300	.0099

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2044**	**.3691**	**.3667**	**2.740**	**3.024**	**2.767**	**-.0019**	**.1068**
#1	.2046	.3679	.3664	2.732	3.015	2.771	-.0017	.1073
#2	.2041	.3703	.3670	2.748	3.032	2.763	-.0020	.1063

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.07285**	**-.0116**	**.7171**
#1	.07297	-.0115	.7212
#2	.07272	-.0117	.7129

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3341.4	79177.	6161.8	771.97
#1	3356.9	78942.	6136.1	773.76
#2	3325.8	79411.	6187.5	770.17

Sample Name: CCVB3 Acquired: 12/5/2011 15:32:23 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.860**	**10.17**	**.0023**	**.9855**	**10.06**	**.00000**	**.0008**	**.0000**
Stddev	.022	.03	.0004	.0048	.11	.00002	.0003	.0000
%RSD	.2834	.3095	17.79	.4874	1.141	5835.9	32.59	6.222
#1	7.844	10.15	.0026	.9821	10.14	.00001	.0006	.0000
#2	7.876	10.19	.0020	.9889	9.981	-.00001	.0010	.0000
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**10.06**	**9.472**	**.0001**	**.0001**	**.0002**	**.0007**	**9.791**
Stddev	.0000	.04	.085	.0002	.0002	.0003	.0008	.028
%RSD	67.79	.3824	.9010	322.8	118.6	148.9	103.8	.2878
#1	.0001	10.09	9.532	.0002	.0000	.0000	.0002	9.811
#2	.0000	10.04	9.411	-.0001	.0002	.0004	.0013	9.772
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**10.57**	**9.747**	**9.944**	**1.036**	**1.024**	**.0000**	**-.0006**
Stddev	.0000	.07	.202	.101	.004	.011	.0001	.0002
%RSD	.5614	.6308	2.074	1.017	.4267	1.071	384.9	33.42
#1	.0018	10.62	9.604	10.02	1.033	1.032	.0001	-.0008
#2	.0018	10.53	9.890	9.872	1.039	1.016	-.0001	-.0005
Check ?	None	Chk Pass	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: CCVB3 Acquired: 12/5/2011 15:32:23 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.689**	**-.0002**	**.0001**	**10.08**	**.0002**	**.0021**	**.0001**	**.0002**
Stddev	.086	.0003	.0010	.11	.0013	.0002	.0002	.0001
%RSD	.8834	222.0	1397.	1.068	686.6	11.74	201.2	26.69
#1	9.749	-.0004	-.0006	10.16	-.0007	.0023	.0003	.0002
#2	9.628	.0001	.0008	10.01	.0011	.0019	.0000	.0002
Check ?	Chk Pass	None	None	Chk Pass	None	None	None	None
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.945**	**9.446**	**.0004**	**.0010**	**1.022**	**.99915**	**.9559**	**.9525**
Stddev	.002	.117	.0001	.0003	.011	.00724	.0087	.0004
%RSD	.0208	1.242	18.96	29.38	1.088	.72494	.9133	.0413
#1	9.946	9.529	.0003	.0008	1.030	1.0043	.9497	.9527
#2	9.943	9.363	.0004	.0012	1.014	.99403	.9621	.9522
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3108.4**	**72263.**	**5569.8**	**793.56**
Stddev	12.7	43.	19.6	1.06
%RSD	.40766	.05981	.35191	.13321
#1	3117.4	72232.	5583.6	794.31
#2	3099.5	72293.	5555.9	792.82

Sample Name: CCVA3 Acquired: 12/5/2011 15:34:57 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2458**	**.2417**	**.2461**	**.2385**	**.2472**	**.24232**	**.2510**	**.2394**
Stddev	.0000	.0059	.0012	.0002	.0001	.00057	.0029	.0001
%RSD	.0150	2.448	.5063	.0676	.0564	.23584	1.154	.0475
#1	.2459	.2375	.2469	.2384	.2471	.24272	.2530	.2395
#2	.2458	.2459	.2452	.2386	.2473	.24191	.2489	.2393
Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2453**	**.2441**	**.2384**	**.2441**	**.2393**	**.2395**	**.2457**	**.2358**
Stddev	.0009	.0006	.0005	.0042	.0002	.0006	.0020	.0026
%RSD	.3755	.2639	.2110	1.732	.0885	.2519	.8225	1.084
#1	.2459	.2445	.2380	.2471	.2391	.2391	.2471	.2340
#2	.2446	.2436	.2387	.2411	.2394	.2399	.2443	.2376
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2436**	**.2764**	**.2487**	**.2488**	**.2491**	**.2436**	**.2407**	**.2415**
Stddev	.0002	.0125	.0001	.0027	.0039	.0021	.0000	.0007
%RSD	.0996	4.516	.0323	1.092	1.550	.8422	.0170	.3074
#1	.2434	.2676	.2487	.2469	.2518	.2450	.2407	.2420
#2	.2438	.2852	.2486	.2508	.2463	.2421	.2408	.2410
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVA3 Acquired: 12/5/2011 15:34:57 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.380**	**.2435**	**.2502**	**.2492**	**.2380**	**.2397**	**.2375**	**.2441**
Stddev	.004	.0003	.0012	.0056	.0011	.0022	.0005	.0000
%RSD	.1735	.1112	.4980	2.259	.4516	.9176	.1995	.0114
#1	2.377	.2434	.2510	.2452	.2372	.2413	.2379	.2441
#2	2.383	.2437	.2493	.2531	.2387	.2382	.2372	.2442
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0042**	**.1161**	**.2448**	**.2377**	**-.0007**	**.00016**	**.0051**	**.0003**
Stddev	.0011	.0122	.0030	.0002	.0025	.00004	.0017	.0060
%RSD	26.50	10.54	1.224	.0693	369.5	25.011	34.22	2382.
#1	-.0034	.1248	.2469	.2378	-.0024	.00019	.0039	.0045
#2	-.0050	.1075	.2427	.2376	.0011	.00013	.0063	-.0040
Check ?	None	None	Chk Pass	Chk Pass	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3095.4**	**73761.**	**5612.9**	**801.51**
Stddev	4.0	532.	4.8	1.13
%RSD	.13048	.72191	.08466	.14151
#1	3092.5	73384.	5616.3	802.31
#2	3098.2	74137.	5609.5	800.71

Sample Name: CCB3 Acquired: 12/5/2011 15:37:08 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0021**	**.0017**	**.0003**	**.0005**	**.00000**	**.0007**	**.0000**
Stddev	.0002	.0004	.0004	.0020	.0001	.0000	.0001	.000
%RSD	231.2	16.92	25.54	642.0	17.69	110.91	7.598	2720.
#1	-.0002	-.0018	.0014	.0017	.0006	-.00001	.0008	.0000
#2	.0000	-.0023	.0020	-.0011	.0005	.00000	.0007	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0103**	**.0002**	**.0002**	**-.0004**	**-.0002**	**.0003**	**.0020**
Stddev	.0000	.0008	.0001	.0002	.0004	.0003	.0000	.0030
%RSD	41.77	7.909	21.84	83.54	86.75	150.8	3.002	153.9
#1	.0001	.0097	.0003	.0004	-.0007	-.0005	.0003	.0041
#2	.0001	.0109	.0002	.0001	-.0002	.0000	.0003	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0145**	**.0001**	**.0002**	**-.0002**	**-.0020**	**.0003**	**-.0010**
Stddev	.0011	.0097	.0000	.0016	.0000	.0003	.0002	.0005
%RSD	186.3	66.56	8.358	721.8	.4415	15.64	51.62	46.90
#1	-.0002	.0213	.0001	-.0009	-.0002	-.0022	.0002	-.0007
#2	.0013	.0077	.0001	.0014	-.0002	-.0017	.0004	-.0013
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB3 Acquired: 12/5/2011 15:37:08 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0515**	**.0012**	**.0003**	**.0057**	**.0009**	**-.0001**	**.0000**	**.0000**
Stddev	.0186	.0001	.0005	.0122	.0016	.0001	.000	.000
%RSD	36.20	11.22	172.9	213.5	179.3	239.8	455.1	281.0
#1	.0383	.0013	.0006	.0144	.0020	-.0002	.0001	-.0001
#2	.0647	.0011	-.0001	-.0029	-.0002	.0000	-.0002	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0064**	**-.0074**	**.0000**	**-.0002**	**.0009**	**-.00001**	**.0001**	**-.0055**
Stddev	.0004	.0094	.000	.0001	.0026	.00002	.0006	.0013
%RSD	6.561	125.8	1030.	31.04	282.9	201.35	445.6	23.68
#1	-.0067	-.0008	-.0001	-.0003	-.0009	-.00003	.0006	-.0064
#2	-.0061	-.0141	.0001	-.0002	.0028	.00000	-.0003	-.0046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3094.7**	**72954.**	**5502.9**	**802.16**
Stddev	3.5	271.	4.2	.35
%RSD	.11333	.37210	.07703	.04310
#1	3097.1	73146.	5505.9	802.40
#2	3092.2	72762.	5499.9	801.92

Sample Name: K1110363-002 1/2 Acquired: 12/5/2011 15:39:34 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**52.19**	**.0010**	**.0357**	**.4425**	**.00322**	**.0148**	**.0011**	**.0009**
#1	52.19	.0013	.0335	.4434	.00315	.0147	.0011	.0009
#2	52.20	.0006	.0380	.4416	.00329	.0148	.0011	.0010

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.70**	**13.07**	**.0795**	**.0338**	**.0646**	**.0560**	**105.1**	**.0589**
#1	13.69	13.05	.0785	.0336	.0634	.0548	105.2	.0585
#2	13.71	13.09	.0804	.0340	.0659	.0572	105.0	.0594

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**17.76**	**2.309**	**.0029**	**.0644**	**18.36**	**.0040**	**-.0011**	**.3382**
#1	17.75	2.307	.0030	.0604	18.43	.0027	-.0009	.3301
#2	17.76	2.311	.0029	.0684	18.28	.0053	-.0012	.3462

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0089**	**.1547**	**.3225**	**.3172**	**2.644**	**5.265**	**3.356**	**-.0031**
#1	.0098	.1537	.3204	.3154	2.623	5.259	3.348	-.0025
#2	.0080	.1556	.3247	.3191	2.665	5.271	3.363	-.0038

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**.0812**	**.12555**	**-.0087**	**.6183**
#1	.0807	.12564	-.0054	.5996
#2	.0817	.12545	-.0121	.6370

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3247.9	76648.	6000.2	764.34
#1	3249.4	76762.	6000.9	766.29
#2	3246.5	76534.	5999.5	762.39

Sample Name: K1110467-001 1/2 Acquired: 12/5/2011 15:41:56 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**47.63**	**.0030**	**.0191**	**.3751**	**.00239**	**.0092**	**.0008**	**.0005**
#1	47.45	.0038	.0187	.3782	.00242	.0087	.0008	.0004
#2	47.81	.0023	.0195	.3721	.00235	.0097	.0008	.0005

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.932**	**8.577**	**.0664**	**.0226**	**.0391**	**.0362**	**83.34**	**.0409**
#1	8.985	8.666	.0661	.0228	.0392	.0357	83.79	.0401
#2	8.878	8.488	.0666	.0225	.0389	.0367	82.89	.0417

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.17**	**1.687**	**.0024**	**.0418**	**17.55**	**.0058**	**-.0013**	**.2989**
#1	16.26	1.679	.0023	.0419	17.65	.0082	-.0011	.3120
#2	16.07	1.695	.0025	.0417	17.44	.0034	-.0015	.2857

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0060**	**.1281**	**.2286**	**.2292**	**1.823**	**7.640**	**3.376**	**-.0034**
#1	.0052	.1280	.2285	.2285	1.816	7.646	3.356	-.0039
#2	.0067	.1282	.2287	.2299	1.830	7.634	3.395	-.0029

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**.0817**	**.08493**	**-.0053**	**.5143**
#1	.0834	.08556	-.0055	.5164
#2	.0800	.08431	-.0052	.5122

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3246.4	75852.	6031.9	775.63
#1	3248.7	76103.	6010.3	773.25
#2	3244.1	75602.	6053.5	778.01

Sample Name: K1110524-001 1/2 Acquired: 12/5/2011 15:44:22 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**76.27**	**.0018**	**.0476**	**.3537**	**.00449**	**.0101**	**.0001**	**-.0002**
#1	76.82	.0017	.0467	.3545	.00453	.0093	.0002	-.0003
#2	75.72	.0019	.0485	.3529	.00446	.0109	.0000	-.0001

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.363**	**8.287**	**.0979**	**.0410**	**.0578**	**.0509**	**119.2**	**.0590**
#1	8.356	8.363	.0969	.0407	.0579	.0499	119.5	.0600
#2	8.369	8.212	.0990	.0413	.0576	.0519	118.8	.0580

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**22.24**	**1.207**	**.0030**	**.0510**	**7.821**	**.0045**	**-.0013**	**2.557**
#1	22.16	1.198	.0031	.0512	7.802	.0034	-.0013	2.540
#2	22.31	1.216	.0030	.0507	7.840	.0056	-.0013	2.574

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0100**	**.1853**	**.2373**	**.2362**	**.9615**	**5.147**	**3.020**	**-.0049**
#1	.0110	.1836	.2374	.2365	.9649	5.123	2.988	-.0055
#2	.0089	.1869	.2372	.2358	.9581	5.170	3.052	-.0044

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**.1067**	**.07066**	**-.0117**	**.1385**
#1	.1073	.07065	-.0127	.1367
#2	.1062	.07066	-.0106	.1404

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3267.6**	**76896.**	**6050.2**	**767.51**
#1	3263.5	77375.	6019.7	767.39
#2	3271.7	76417.	6080.8	767.63

Sample Name: K1110524-001L 1/10 Acquired: 12/5/2011 15:46:53 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.89**	**-.0010**	**.0105**	**.0734**	**.00075**	**.0037**	**.0000**	**.0000**
#1	14.89	-.0026	.0103	.0736	.00076	.0029	.0000	.0000
#2	14.88	.0006	.0107	.0732	.00073	.0045	.0000	-.0001

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.742**	**1.732**	**.0201**	**.0087**	**.0095**	**.0097**	**24.65**	**.0117**
#1	1.743	1.738	.0204	.0089	.0094	.0094	24.75	.0125
#2	1.740	1.727	.0199	.0085	.0096	.0099	24.54	.0108

Elem	Mg2795	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.372**	**4.385**	**.2487**	**.0008**	**.0098**	**1.551**	**-.0019**	**-.0001**
#1	4.384	4.384	.2497	.0010	.0098	1.550	-.0029	-.0005
#2	4.359	4.385	.2478	.0006	.0098	1.552	-.0009	.0003

Elem	Na5895	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4867**	**.0022**	**.0365**	**.0468**	**.0477**	**.1928**	**.9695**	**.6016**
#1	.4935	.0029	.0363	.0467	.0478	.1923	.9760	.6040
#2	.4798	.0016	.0367	.0469	.0477	.1932	.9631	.5992

Elem	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.0011**	**.0216**	**.01465**	**-.0027**	**.0230**
#1	-.0005	.0207	.01470	-.0039	.0277
#2	-.0018	.0224	.01460	-.0015	.0184

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3155.5	74250.	5685.8	797.46
#1	3160.2	73904.	5678.4	798.41
#2	3150.9	74595.	5693.3	796.51

Sample Name: K1110524-001A 1/2 Acquired: 12/5/2011 15:49:11 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: A=0.05ml CICV-1,2,3 + 0.05ml 1000ppm B,Li,P,Sr,Sn,Ti to 10ml

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**83.33**	**2.301**	**2.345**	**4.997**	**.12350**	**4.810**	**1.170**	**1.079**
#1	83.13	2.312	2.354	5.016	.12325	4.805	1.170	1.081
#2	83.54	2.290	2.336	4.977	.12376	4.815	1.169	1.077

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**19.72**	**.5539**	**1.142**	**.6611**	**.6585**	**118.8**	**2.459**	**34.52**
#1	19.78	.5551	1.142	.6620	.6583	119.2	2.464	34.41
#2	19.66	.5527	1.141	.6602	.6586	118.4	2.455	34.62

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.356**	**.0032**	**1.133**	**19.74**	**2.144**	**.5856**	**15.13**	**4.770**
#1	2.368	.0032	1.135	19.75	2.151	.5842	15.13	4.771
#2	2.344	.0032	1.131	19.72	2.138	.5870	15.14	4.769

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.319**	**1.410**	**1.368**	**5.535**	**5.119**	**7.440**	**2.354**	**5.074**
#1	1.326	1.408	1.372	5.557	5.104	7.480	2.359	5.056
#2	1.311	1.412	1.363	5.512	5.135	7.399	2.348	5.093

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**4.5639**	**.0183**	**.1273**
#1	4.5827	.0186	.1296
#2	4.5451	.0180	.1250

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3260.3**	**76818.**	**6063.9**	**757.52**
#1	3266.2	76493.	6021.5	758.77
#2	3254.4	77144.	6106.3	756.26

B- Met1-91-F
Li- Met2-4-C
P- Met2-4-H
Sr- Met2-6-H
Sn- Met2-6-J
Ti- Met2-6-K
12/5/11

Sample Name: K1110524-001S 1/2 Acquired: 12/5/2011 15:51:38 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**87.45**	**.1753**	**.5282**	**2.359**	**.05355**	**.4644**	**.0497**	**.0458**
#1	85.80	.1773	.5277	2.345	.05390	.4658	.0502	.0462
#2	89.11	.1733	.5288	2.372	.05319	.4630	.0492	.0454

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.60**	**12.03**	**.2913**	**.4944**	**.3050**	**.3027**	**127.9**	**.5673**
#1	12.54	11.97	.2927	.4980	.3094	.3040	127.1	.5725
#2	12.67	12.10	.2899	.4908	.3007	.3014	128.7	.5620

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.33**	**1.647**	**.4684**	**.5016**	**12.63**	**.4485**	**.0474**	**7.592**
#1	27.27	1.655	.4716	.5048	12.60	.4496	.0478	7.565
#2	27.40	1.640	.4651	.4985	12.67	.4474	.0470	7.619

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.032**	**.6637**	**.7253**	**.7059**	**2.048**	**3.835**	**3.843**	**.4948**
#1	1.039	.6703	.7310	.7058	2.048	3.824	3.866	.4981
#2	1.024	.6571	.7195	.7060	2.047	3.846	3.819	.4915

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**1.152**	**1.0090**	**-.0010**	**.1571**
#1	1.147	1.0042	-.0029	.1569
#2	1.157	1.0139	.0010	.1572

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3267.2**	**77609.**	**6039.9**	**764.39**
#1	3243.4	77316.	6058.1	757.35
#2	3291.0	77902.	6021.7	771.42

Sample Name: K1110524-001SD 1/2 Acquired: 12/5/2011 15:53:58 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**87.38**	**.1600**	**.5179**	**2.405**	**.05351**	**.4690**	**.0484**	**.0455**
#1	88.05	.1602	.5166	2.419	.05359	.4693	.0488	.0460
#2	86.71	.1598	.5193	2.390	.05343	.4688	.0480	.0451

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.66**	**11.85**	**.2838**	**.4838**	**.2943**	**.3028**	**108.8**	**.5436**
#1	12.74	12.04	.2836	.4881	.2965	.3021	109.7	.5455
#2	12.58	11.66	.2840	.4795	.2920	.3035	107.9	.5416

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.35**	**1.496**	**.4620**	**.4956**	**12.14**	**.4472**	**.0489**	**7.484**
#1	25.99	1.495	.4660	.4994	11.98	.4462	.0487	7.381
#2	26.70	1.497	.4580	.4917	12.29	.4482	.0491	7.586

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9761**	**.6408**	**.6947**	**.6932**	**1.812**	**6.144**	**3.856**	**.4811**
#1	.9853	.6401	.7009	.6939	1.818	6.099	3.848	.4825
#2	.9668	.6414	.6886	.6925	1.806	6.190	3.863	.4796

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**1.165**	**1.0282**	**-.0014**	**.1548**
#1	1.146	1.0337	-.0008	.1546
#2	1.184	1.0228	-.0020	.1551

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3306.0**	**77265.**	**5917.4**	**782.83**
#1	3284.0	77263.	5780.8	778.22
#2	3327.9	77268.	6054.1	787.45

Sample Name: K1110524-002 1/2 Acquired: 12/5/2011 15:56:18 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**121.9**	**.0015**	**.0748**	**.5556**	**.00645**	**.0117**	**.0011**	**.0009**
#1	123.4	-.0018	.0746	.5559	.00637	.0106	.0011	.0009
#2	120.4	.0047	.0749	.5552	.00653	.0127	.0012	.0009

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**20.68**	**.1750**	**.0898**	**.1753**	**.1527**	**215.2**	**.1280**	**51.51**
#1	20.76	.1745	.0899	.1756	.1540	215.6	.1287	51.46
#2	20.59	.1754	.0897	.1750	.1514	214.8	.1273	51.55

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.491**	**.0047**	**.1153**	**24.04**	**.0055**	**-.0025**	**.7158**	**.0172**
#1	3.510	.0046	.1152	23.96	.0079	-.0023	.7163	.0167
#2	3.473	.0047	.1154	24.12	.0032	-.0026	.7152	.0176

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2759**	**.7843**	**.7750**	**3.505**	**3.904**	**5.590**	**-.0034**	**.2729**
#1	.2765	.7872	.7733	3.497	3.904	5.624	-.0035	.2741
#2	.2753	.7815	.7766	3.513	3.903	5.556	-.0033	.2717

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.07789**	**-.0065**	**.2864**
#1	.07805	-.0061	.2843
#2	.07774	-.0070	.2885

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3376.6**	**78956.**	**6127.1**	**763.13**
#1	3373.9	78834.	6100.5	760.85
#2	3379.3	79078.	6153.7	765.40

Sample Name: K1110641-001 1/2 Acquired: 12/5/2011 15:58:55 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**66.31**	**.0017**	**.0382**	**.4303**	**.00338**	**.0108**	**.0009**	**.0008**
#1	66.16	.0014	.0394	.4334	.00334	.0116	.0009	.0007
#2	66.46	.0019	.0370	.4272	.00342	.0101	.0009	.0009

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.98**	**.1009**	**.0313**	**.0636**	**.0567**	**120.9**	**.0859**	**23.96**
#1	16.08	.1000	.0316	.0633	.0557	121.8	.0862	23.97
#2	15.89	.1017	.0309	.0638	.0578	120.0	.0856	23.96

Elem	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.903**	**.0042**	**.0641**	**19.61**	**.0060**	**-.0012**	**.3392**	**.0082**
#1	1.891	.0042	.0640	19.57	.0069	-.0011	.3372	.0080
#2	1.916	.0041	.0642	19.65	.0051	-.0014	.3412	.0084

Elem	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2119**	**.3419**	**.3451**	**2.186**	**7.047**	**4.502**	**-.0032**	**.1303**
#1	.2104	.3416	.3451	2.181	7.046	4.460	-.0036	.1315
#2	.2133	.3423	.3450	2.192	7.048	4.543	-.0028	.1291

Elem	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	**.10786**	**-.0054**	**.6864**
#1	.10854	-.0071	.6818
#2	.10717	-.0038	.6909

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3240.4	74673.	5812.1	781.29
#1	3233.5	75022.	5765.9	781.30
#2	3247.4	74323.	5858.4	781.29

Sample Name: K1110641-002 1/2 Acquired: 12/5/2011 16:01:18 Type: Unk
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A REDIGEST

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**95.82**	**-.0009**	**.0710**	**.4931**	**.00573**	**.0076**	**.0011**	**.0006**
#1	94.74	.0006	.0687	.4937	.00578	.0081	.0012	.0006
#2	96.89	-.0025	.0734	.4925	.00569	.0072	.0010	.0005

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.297**	**9.134**	**.1831**	**.0722**	**.1411**	**.1258**	**179.8**	**.0870**
#1	9.335	9.209	.1840	.0723	.1419	.1259	180.1	.0862
#2	9.260	9.059	.1821	.0721	.1403	.1257	179.5	.0877

Elem	Mg2852	Mn2576	Mo2020	Ni2216	K_7664	Se1960	Ag3280	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.90**	**2.136**	**.0050**	**.1320**	**15.99**	**.0036**	**-.0019**	**1.448**
#1	27.88	2.145	.0052	.1318	15.88	.0023	-.0017	1.425
#2	27.92	2.127	.0048	.1321	16.09	.0049	-.0020	1.471

Elem	Sn1899	V_2924	Zn2062	Zn2138	P_2149	Si2516	Ti3361	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0135**	**.2760**	**.4463**	**.4428**	**1.770**	**5.543**	**3.589**	**-.0017**
#1	.0138	.2753	.4472	.4431	1.773	5.536	3.601	-.0020
#2	.0131	.2767	.4453	.4425	1.767	5.549	3.577	-.0014

Elem	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	**.0963**	**.08775**	**-.0121**	**.9774**
#1	.0972	.08786	-.0121	.9742
#2	.0954	.08763	-.0122	.9806

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3392.4**	**80318.**	**6271.2**	**767.81**
#1	3388.2	80162.	6247.1	767.10
#2	3396.6	80474.	6295.4	768.51

Sample Name: CCVB4 Acquired: 12/5/2011 16:03:46 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.057**	**10.19**	**.0017**	**1.029**	**10.33**	**-.00004**	**.0027**	**.0001**
Stddev	.038	.02	.0009	.003	.46	.00005	.0009	.0001
%RSD	.4735	.1961	51.38	.2842	4.417	107.48	35.07	114.8
#1	8.030	10.20	.0011	1.027	10.01	-.00001	.0020	.0000
#2	8.084	10.18	.0023	1.031	10.66	-.00008	.0034	.0001
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**10.31**	**10.08**	**.0007**	**.0002**	**.0003**	**.0006**	**10.33**
Stddev	.000	.14	.07	.0003	.0003	.0006	.0002	.14
%RSD	199.1	1.356	.6917	46.46	124.1	195.2	34.81	1.331
#1	.0000	10.21	10.13	.0009	.0000	-.0001	.0007	10.24
#2	-.0001	10.41	10.03	.0004	.0004	.0007	.0005	10.43
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0022**	**10.71**	**9.979**	**10.08**	**1.019**	**1.024**	**-.0002**	**-.0008**
Stddev	.0009	.23	.270	.00	.009	.001	.0001	.0001
%RSD	40.88	2.158	2.702	.0075	.9104	.1409	53.76	15.45
#1	.0016	10.55	9.788	10.08	1.026	1.025	-.0001	-.0007
#2	.0028	10.87	10.17	10.08	1.013	1.023	-.0003	-.0009
Check ?	None	Chk Pass	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: CCVB4 Acquired: 12/5/2011 16:03:46 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.18**	**.0002**	**.0002**	**10.01**	**.0000**	**.0022**	**.0003**	**.0001**
Stddev	.01	.0007	.0003	.03	.000	.0001	.0002	.0000
%RSD	.0713	360.7	129.3	.3061	441.0	4.166	84.93	20.76
#1	10.18	.0007	.0000	10.03	.0001	.0022	.0001	.0002
#2	10.19	-.0003	.0004	9.987	-.0001	.0023	.0004	.0001
Check ?	Chk Pass	None	None	Chk Pass	None	None	None	None
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.41**	**9.984**	**.0009**	**-.0017**	**1.019**	**1.0206**	**.9965**	**.9952**
Stddev	.02	.056	.0001	.0004	.001	.0137	.0071	.0159
%RSD	.1908	.5594	14.58	23.55	.0828	1.3401	.7155	1.598
#1	10.40	10.02	.0010	-.0014	1.018	1.0109	.9915	.9839
#2	10.43	9.945	.0008	-.0020	1.020	1.0303	1.002	1.006
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3062.0	72933.	5572.2	777.29
Stddev	2.3	401.	88.7	.16
%RSD	.07433	.54941	1.5920	.02065
#1	3063.6	72649.	5634.9	777.40
#2	3060.4	73216.	5509.5	777.17

Sample Name: CCVA4 Acquired: 12/5/2011 16:06:20 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2526**	**.2491**	**.2508**	**.2475**	**.2576**	**.25261**	**.2599**	**.2474**
Stddev	.0010	.0017	.0046	.0015	.0041	.00130	.0033	.0010
%RSD	.3925	.6634	1.839	.5966	1.597	.51347	1.276	.4063
#1	.2533	.2479	.2541	.2486	.2605	.25170	.2576	.2481
#2	.2519	.2503	.2476	.2465	.2547	.25353	.2623	.2466
Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2529**	**.2623**	**.2521**	**.2551**	**.2477**	**.2452**	**.2549**	**.2498**
Stddev	.0022	.0030	.0029	.0019	.0020	.0003	.0024	.0025
%RSD	.8586	1.130	1.154	.7608	.8145	.1151	.9314	.9931
#1	.2544	.2603	.2542	.2537	.2492	.2454	.2532	.2516
#2	.2514	.2644	.2500	.2565	.2463	.2450	.2566	.2481
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2518**	**.2950**	**.2602**	**.2399**	**.2546**	**.2404**	**.2496**	**.2510**
Stddev	.0008	.0052	.0027	.0043	.0034	.0039	.0017	.0024
%RSD	.3010	1.759	1.048	1.784	1.317	1.629	.6657	.9574
#1	.2523	.2914	.2621	.2429	.2523	.2432	.2508	.2527
#2	.2513	.2987	.2582	.2368	.2570	.2376	.2484	.2493
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVA4 Acquired: 12/5/2011 16:06:20 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.394**	**.2529**	**.2520**	**.2402**	**.2470**	**.2515**	**.2444**	**.2502**
Stddev	.032	.0014	.0023	.0047	.0023	.0035	.0011	.0012
%RSD	1.333	.5625	.9055	1.964	.9116	1.405	.4628	.4701
#1	2.416	.2539	.2504	.2435	.2486	.2490	.2452	.2510
#2	2.371	.2519	.2536	.2369	.2454	.2540	.2436	.2493
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0034**	**.1139**	**.2582**	**.2454**	**-.0011**	**.00015**	**.0055**	**-.0004**
Stddev	.0033	.0111	.0034	.0016	.0008	.00013	.0006	.0049
%RSD	98.30	9.788	1.327	.6621	74.63	91.647	11.02	1384.
#1	-.0010	.1218	.2558	.2465	-.0017	.00024	.0051	.0031
#2	-.0058	.1060	.2606	.2442	-.0005	.00005	.0059	-.0038
Check ?	None	None	Chk Pass	Chk Pass	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3074.7	72974.	5301.9	794.51
Stddev	9.3	655.	48.8	.36
%RSD	.30124	.89810	.92124	.04540
#1	3068.2	73437.	5336.5	794.77
#2	3081.3	72510.	5267.4	794.26

Sample Name: CCB4 Acquired: 12/5/2011 16:08:31 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**-.0009**	**.0020**	**-.0011**	**.0005**	**.00003**	**.0030**	**.0000**
Stddev	.0002	.0003	.0004	.0006	.0000	.00001	.0002	.0000
%RSD	17.37	29.64	18.25	51.74	3.722	19.720	5.580	90.14
#1	.0010	-.0007	.0022	-.0015	.0005	.00002	.0029	.0000
#2	.0008	-.0011	.0017	-.0007	.0005	.00003	.0031	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0027**	**.0004**	**.0001**	**-.0001**	**-.0001**	**.0004**	**.0000**
Stddev	.0000	.0004	.0001	.0001	.0001	.0001	.0004	.001
%RSD	6.990	16.06	13.43	91.52	140.6	92.74	99.20	1134.
#1	.0001	.0024	.0004	.0000	.0000	.0000	.0001	.0003
#2	.0001	.0030	.0003	.0002	-.0002	-.0001	.0006	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0014**	**.0003**	**-.0007**	**-.0001**	**-.0004**	**.0004**	**-.0007**
Stddev	.0018	.0038	.0000	.0004	.0000	.0006	.0001	.0001
%RSD	957.8	275.0	10.80	54.04	23.52	147.1	22.33	9.729
#1	-.0011	.0013	.0003	-.0010	.0000	-.0009	.0003	-.0008
#2	.0015	-.0040	.0003	-.0004	-.0001	.0000	.0005	-.0007
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB4 Acquired: 12/5/2011 16:08:31 Type: QC
Method: 2011C(v157) Mode: CONC Corr. Factor: 1.000000
User: admin : : :
Comment: 120511A

Elem	K_7664	Se1960	Ag3280	Na5895	Sn1899	V_2924	Zn2062	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0413**	**-.0013**	**.0006**	**-.0020**	**.0003**	**-.0005**	**.0001**	**-.0001**
Stddev	.0514	.0001	.0005	.0074	.0002	.0003	.0002	.0001
%RSD	124.5	6.580	82.24	373.8	64.22	62.91	223.1	114.3
#1	.0049	-.0012	.0009	.0032	.0002	-.0003	.0002	.0000
#2	.0777	-.0013	.0002	-.0072	.0004	-.0008	.0000	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	P_2149	Si2516	Ti3361	Tl1908	Li6707	Sr4077	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0037**	**-.0135**	**.0000**	**.0007**	**.0003**	**.00000**	**.0018**	**-.0019**
Stddev	.0046	.0049	.0000	.0021	.0003	.0000	.0008	.0002
%RSD	123.6	36.54	91.66	301.9	82.70	788.69	46.46	8.056
#1	-.0070	-.0170	.0000	-.0008	.0005	-.00002	.0024	-.0018
#2	-.0005	-.0100	.0001	.0022	.0001	.00001	.0012	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3067.1**	**72838.**	**5493.6**	**792.93**
Stddev	14.4	404.	146.1	3.17
%RSD	.47096	.55464	2.6588	.40030
#1	3056.9	73123.	5390.3	790.68
#2	3077.4	72552.	5596.8	795.17

Service Request # K1110227 (HNO3)_____
Calibration _____120611A_____
QC in calibration__12061A_____
QC Service Request K1110524_____
STARLIMS Batch # 272002_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL		X	
13. CRA run	X		
14. ICSA and ICSAB in control	X	X	
15. Serial dilution run	X		
16. Post spike in control	X		
17. Was the run terminated? If so, why.	X		

Comments: Report Zr-90 use MRL= 0.2 ppb.

ICSAB: V, Co out of control. See other data set for V, Co

Primary Review by _____ Date 12/6/11
Secondary Review by JDB Date 12/6/11
R:\icp\misc\data review forms\PQ ExCell review form

Sample List

Num	Label	Type	Weight	Volume	Dilution	Rack	Row	Column	Height
1	Cal. Blk	Blank	0 kg	0 ml	1.00	0	1	1	145
2	Cal. Stn	Fully Quant Standard	0 kg	0 ml	1.00	0	1	2	145
3	ICV1	Unknown	0 kg	0 ml	1.00	0	1	3	145
4	CCV1	Unknown	0 kg	0 ml	1.00	0	1	2	145
5	ICB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
6	CCB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
7	LLICV	Unknown	0 kg	0 ml	1.00	0	1	4	145
8	ICSA	Unknown	0 kg	0 ml	1.00	0	1	5	145
9	ICSAB	Unknown	0 kg	0 ml	1.00	0	1	6	145
10	K1110524-MB 1/5	Unknown	0 kg	0 ml	1.00	1	1	1	145
11	LLLCSW 1/5	Unknown	0 kg	0 ml	1.00	1	1	2	145
12	LCSW 1/100	Unknown	0 kg	0 ml	1.00	1	1	3	145
13	DLCSW 1/100	Unknown	0 kg	0 ml	1.00	1	1	4	145
14	K1110524-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	5	145
15	K1110524-001L 1/25	Unknown	0 kg	0 ml	1.00	1	1	6	145
16	K1110524-001A 1/5,	Unknown	0 kg	0 ml	1.00	1	1	7	145
17	K1110524-001A 1/5,	Unknown	0 kg	0 ml	1.00	1	1	5	145
18	K1110524-001S 1/5	Unknown	0 kg	0 ml	1.00	1	1	8	145
19	K1110524-001SD 1/5	Unknown	0 kg	0 ml	1.00	1	1	9	145
20	CCV2	Unknown	0 kg	0 ml	1.00	0	1	2	145
21	CCB2	Unknown	0 kg	0 ml	1.00	0	1	1	145
22	K1110524-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	10	145
23	K1110169-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	11	145
24	K1110169-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	12	145
25	K1110169-003 1/5	Unknown	0 kg	0 ml	1.00	1	2	1	145
26	K1110169-004 1/5	Unknown	0 kg	0 ml	1.00	1	2	2	145
27	K1110227-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	3	145
28	K1110363-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	4	145
29	K1110363-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	5	145
30	K1110467-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	6	145
31	CCV3	Unknown	0 kg	0 ml	1.00	0	1	2	145
32	CCB3	Unknown	0 kg	0 ml	1.00	0	1	1	145
33	K1110641-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	7	145
34	K1110641-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	8	145
35	K1110689-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	9	145
36	K1110689-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	10	145
37	CCV4	Unknown	0 kg	0 ml	1.00	0	1	2	145
38	CCB4	Unknown	0 kg	0 ml	1.00	0	1	1	145

Instrument Setup - Configurations

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 6:40:16 12/6/11
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-380.00
Lens1	10.00
Lens2	-85.00
Lens3	-200.00
Pole Bias	2.00
Sampling Depth	370.00
Horizontal	-20.00
Vertical	100.00
Cool	13.00
Auxiliary	0.60
Nebuliser	0.84
Forward power	1,350.00
HT1 Voltage	1,900.00
HT2 Voltage	2,600.00
D1	-34.00
Focus	24.00

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 6:40:16 12/6/11
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-380.00
Lens1	10.00
Lens2	-85.00
Lens3	-200.00
Pole Bias	2.00
Sampling Depth	370.00
Horizontal	-20.00
Vertical	100.00
Cool	13.00
Auxiliary	0.60

ExCell Mass Calibration

Date: 12/6/2011

Mass	Mass DAC	Peak Width (AMU)	Error (AMU)	Include	Masses in Tune Solution
6.015	1291	0.766	0.018	TRUE	
7.016	1551	0.766	-0.004	TRUE	Li-7
9.012	2058	0.766	0	TRUE	Be-9
23.985	5871	0.715	-0.015	TRUE	Mg-24
24.986	6124	0.766	-0.009	TRUE	Co-59
25.983	6378	0.715	-0.01	TRUE	In-115
26.982	6631	0.766	-0.006	TRUE	Ce-140
43.956	10954	0.766	-0.02	TRUE	Pb-208
45.953	11468	0.817	-0.042	TRUE	Bi-209
50.944	12722	0.766	0.022	TRUE	U-238
51.94	12982	0.766	-0.003	TRUE	
52.941	13236	0.817	-0.001	TRUE	
53.949	13489	0.766	0.014	TRUE	
55.935	13970	0.664	0.11	FALSE	
56.935	14256	0.766	-0.014	TRUE	
57.934	14503	0.766	0.015	TRUE	
58.933	14757	0.817	0.016	TRUE	
59.931	15010	0.766	0.02	TRUE	
62.93	15771	0.817	0.029	TRUE	
63.929	16031	0.817	0.006	TRUE	
69.925	17565	0.817	-0.023	TRUE	
75.92	19079	0.766	0.025	TRUE	
77.919	19593	0.817	0.005	TRUE	
112.904	28499	0.817	0.018	TRUE	
114.904	29012	0.766	0.004	TRUE	
118.903	30065	0.765	-0.13	FALSE	
139.905	35389	0.714	-0.026	TRUE	
141.908	35896	0.714	-0.012	TRUE	
155.923	39464	0.765	0.001	TRUE	
157.924	39978	0.714	-0.015	TRUE	
205.974	52224	0.714	-0.001	TRUE	
206.976	52484	0.714	-0.019	TRUE	
207.977	52731	0.714	0.013	TRUE	
208.98	52991	0.714	-0.003	TRUE	
238.051	60401	0.714	0.017	TRUE	

Excluded In Calib | Excluded In Results | Cal Line Selected | Multi Element | Semi Quant | Internal Standard | Standard Addition

Uncorrected ICPS Per Mass

S-Calibration Has Edited Standard E-Calibration Edited I-Invalid Calibration V-Valley Integration Failed
F-Interference Correction Failed T-Tripped P-Pulse Counting M-Result Over Max

Run	Label	TimeStamp	24Mg	7Li	9Be	59Co	115In	208Pb
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)0.333	(P)56363.153	(P)11783.525	(P)60490.974	(P)54994.820	(P)21465.792
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)0.333	(P)55020.094	(P)11158.857	(P)58622.209	(P)55726.313	(P)22068.381
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)0.000	(P)53288.050	(P)10962.205	(P)58966.617	(P)55601.999	(P)21944.346
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)0.167	(P)52462.994	(P)10998.065	(P)59805.934	(P)53777.029	(P)21270.667
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)0.000	(P)52175.113	(P)10832.940	(P)59964.104	(P)54806.265	(P)21425.057
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)0.167	(P)53861.881	(P)11147.118	(P)59569.968	(P)54981.285	(P)21634.848
	SD of Stability 12-06-20		(P)0.167	(P)1783.898	(P)374.256	(P)761.832	(P)778.043	(P)349.628
	%RSD of Stability 12		(P)100.000	(P)3.312	(P)3.357	(P)1.279	(P)1.415	(P)1.616

Run	Label	TimeStamp	209Bi	232Th	238U
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)32808.472	(P)0.167	(P)32138.617
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)33293.776	(P)0.000	(P)33658.779
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)33102.988	(P)0.000	(P)33508.254
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)31430.709	(P)0.000	(P)32767.209
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)31919.959	(P)0.000	(P)32461.510
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)32511.181	(P)0.033	(P)32906.874
	SD of Stability 12-06-20		(P)801.255	(P)0.075	(P)658.615
	%RSD of Stability 12		(P)2.465	(P)223.607	(P)2.001

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		Cal. Blk			Mean	SD	%RSD
TimeStamp		12/6/11 7:54					
Arsenic	75	0.0176	0.0205	-0.0381	**0**	0.033	0
Cadmium	111	0.0018	-0.0024	0.0007	**0**	0.0022	0
Cadmium	114	-0.001	0.0015	-0.0004	**0**	0.0013	0
Chromium	52	0.0064	-0.0133	0.0069	**0**	0.0115	0
Chromium	53	0.0237	0.0034	-0.0271	**0**	0.0256	0
Cobalt	59	0.0001	0.0004	-0.0005	**0**	0.0005	0
Copper	63	-0.006	-0.0003	0.0064	**0**	0.0062	0
Copper	65	-0.0007	-0.0034	0.0041	**0**	0.0038	0
Lead	206	-0.0005	0.0002	0.0002	**0**	0.0004	0
Lead	207	0.0023	-0.0017	-0.0006	**0**	0.002	0
Lead	208	0.0002	0.001	-0.0012	**0**	0.0011	0
Molybdenum	95	0.0015	-0.0006	-0.0009	**0**	0.0013	0
Molybdenum	97	0.0026	0.0038	-0.0064	**0**	0.0056	0
Molybdenum	98	0.0054	-0.0021	-0.0033	**0**	0.0047	0
Nickel	60	-0.0063	-0.0038	0.0101	**0**	0.0088	0
Nickel	62	0.0245	-0.0187	-0.0058	**0**	0.0222	0
Selenium	77	0.0006	-0.0478	0.0473	**0**	0.0476	0
Selenium	78	0.1437	0.116	-0.2598	**0**	0.2254	0
Selenium	82	0.0494	0.0357	-0.0851	**0**	0.074	0
Thallium	203	-0.0001	-0.0005	0.0005	**0**	0.0005	0
Thallium	205	0.0003	0.0001	-0.0005	**0**	0.0004	0
Vanadium	51	0.01	-0.0128	0.0028	**0**	0.0116	0
Zirconium	90	0.0017	-0.0003	-0.0013	**0**	0.0015	0
Zirconium	91	0.0023	-0.0002	-0.0022	**0**	0.0022	0
Zirconium	92	-0.0004	-0.0005	0.0009	**0**	0.0008	0

Internal Standard Factors:

Lithium	6	1.028	0.983	0.99	**1.028**	n/a	n/a
Rhodium	103	1.004	0.988	1.008	**1.004**	n/a	n/a
Indium	115	0.989	0.994	1.018	**0.989**	n/a	n/a
Lutetium	175	0.994	0.977	1.03	**0.994**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		Cal. Stn			Mean	SD	%RSD
TimeStamp		12/6/11 7:58					
Arsenic	75	25.41	25.09	24.5	**25**	0.4644	1.858
Cadmium	111	25.27	24.93	24.8	**25**	0.2424	0.9696
Cadmium	114	24.8	25.29	24.91	**25**	0.2581	1.033
Chromium	52	25.45	24.96	24.59	**25**	0.4289	1.716
Chromium	53	25.35	25.07	24.58	**25**	0.3888	1.555
Cobalt	59	25.33	25.01	24.66	**25**	0.3367	1.347
Copper	63	25.32	25	24.68	**25**	0.3192	1.277
Copper	65	25.26	25.03	24.71	**25**	0.2762	1.105
Lead	206	25.35	24.3	25.36	**25**	0.6097	2.439
Lead	207	25.2	24.83	24.96	**25**	0.1872	0.7488
Lead	208	25.2	24.72	25.09	**25**	0.2522	1.009
Molybdenum	95	25.1	24.95	24.94	**25**	0.0899	0.3596
Molybdenum	97	25.1	25.02	24.87	**25**	0.1162	0.4647
Molybdenum	98	25.42	25.09	24.49	**25**	0.4728	1.891
Nickel	60	25.32	25.05	24.63	**25**	0.3506	1.402
Nickel	62	25.23	24.94	24.83	**25**	0.2071	0.8284
Selenium	77	25.45	25.1	24.45	**25**	0.5058	2.023
Selenium	78	25.39	25.06	24.54	**25**	0.4282	1.713
Selenium	82	25.47	25.42	24.11	**25**	0.7707	3.083
Thallium	203	25.15	24.93	24.92	**25**	0.13	0.52
Thallium	205	25.45	24.84	24.72	**25**	0.3934	1.574
Vanadium	51	25.3	24.89	24.81	**25**	0.2635	1.054
Zirconium	90	25.19	25.15	24.66	**25**	0.2955	1.182
Zirconium	91	25.22	24.91	24.87	**25**	0.195	0.7802
Zirconium	92	25.24	25.07	24.69	**25**	0.2801	1.12

Internal Standard Factors:

Lithium	6	1.02	1.012	0.976	**1.02**	n/a	n/a
Rhodium	103	0.998	0.988	0.984	**0.998**	n/a	n/a
Indium	115	0.993	0.993	0.996	**0.993**	n/a	n/a
Lutetium	175	1.012	0.986	1.003	**1.012**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICV1			Mean	SD	%RSD
TimeStamp		12/6/11 8:02					
Arsenic	75	25.59	25.87	25.77	**25.75**	0.1411	0.5479
Cadmium	111	12.94	13.05	12.85	**12.95**	0.1033	0.7974
Cadmium	114	12.76	12.88	12.91	**12.85**	0.0783	0.609
Chromium	52	10.11	10.2	10.13	**10.15**	0.0487	0.4797
Chromium	53	10.24	10.36	10.22	**10.27**	0.0736	0.716
Cobalt	59	25.41	25.35	25.36	**25.37**	0.0316	0.1244
Copper	63	12.81	12.85	12.8	**12.82**	0.0295	0.2302
Copper	65	12.64	12.75	12.89	**12.76**	0.1211	0.9493
Lead	206	26.35	26.12	27.01	**26.49**	0.4586	1.731
Lead	207	24.88	25.22	25.02	**25.04**	0.1736	0.6931
Lead	208	25.33	25.52	25.65	**25.5**	0.16	0.6277
Molybdenum	95	25.62	25.87	25.33	**25.61**	0.2699	1.054
Molybdenum	97	25.33	25.83	25.61	**25.59**	0.2532	0.9897
Molybdenum	98	25.6	25.75	26.14	**25.83**	0.284	1.1
Nickel	60	24.97	25.26	25.11	**25.12**	0.1463	0.5824
Nickel	62	25.35	25.13	25.34	**25.27**	0.123	0.4866
Selenium	77	25.28	25.51	25.52	**25.44**	0.1341	0.5271
Selenium	78	25.55	25.81	25.58	**25.65**	0.1434	0.559
Selenium	82	25.35	25.85	26.11	**25.77**	0.3887	1.508
Thallium	203	25.58	25.59	25.61	**25.59**	0.0199	0.0779
Thallium	205	25.55	25.92	25.7	**25.72**	0.1861	0.7235
Vanadium	51	25.61	25.53	25.72	**25.62**	0.093	0.363
Zirconium	90	26.14	25.6	25.76	**25.84**	0.2746	1.063
Zirconium	91	25.22	25.67	25.62	**25.5**	0.2474	0.97
Zirconium	92	25.5	25.28	25.7	**25.49**	0.2122	0.8325

Internal Standard Factors:							
Lithium	6	1.044	1.025	1.008	**1.044**	n/a	n/a
Rhodium	103	1.021	1.028	1.029	**1.021**	n/a	n/a
Indium	115	1.031	1.041	1.025	**1.031**	n/a	n/a
Lutetium	175	1.018	1.013	1.025	**1.018**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV1			Mean	SD	%RSD
TimeStamp		12/6/11 8:07					
Arsenic	75	25.03	24.54	25.01	**24.86**	0.2757	1.109
Cadmium	111	24.74	24.48	24.89	**24.7**	0.2092	0.847
Cadmium	114	24.84	24.71	24.69	**24.75**	0.0833	0.3364
Chromium	52	24.79	24.34	24.71	**24.61**	0.2395	0.973
Chromium	53	25.04	24.57	25.24	**24.95**	0.3436	1.377
Cobalt	59	25.07	24.7	24.75	**24.84**	0.1992	0.8021
Copper	63	24.96	24.66	24.38	**24.67**	0.2877	1.166
Copper	65	24.99	24.83	24.61	**24.81**	0.1919	0.7732
Lead	206	24.93	24.56	23.79	**24.43**	0.5841	2.391
Lead	207	24.73	25.03	24.27	**24.68**	0.3844	1.558
Lead	208	24.59	24.36	24.01	**24.32**	0.2939	1.209
Molybdenum	95	24.82	24.64	24.95	**24.8**	0.1565	0.6309
Molybdenum	97	25.14	24.65	24.98	**24.92**	0.2467	0.9898
Molybdenum	98	25.16	25.08	25.23	**25.15**	0.0766	0.3043
Nickel	60	24.92	24.65	24.52	**24.7**	0.2055	0.8321
Nickel	62	24.86	24.79	24.74	**24.8**	0.0606	0.2442
Selenium	77	24.71	23.79	24.3	**24.27**	0.4609	1.899
Selenium	78	24.92	24.42	24.78	**24.71**	0.2575	1.042
Selenium	82	25.11	24.35	24.39	**24.61**	0.4288	1.742
Thallium	203	24.73	25.04	23.99	**24.59**	0.5416	2.203
Thallium	205	24.59	24.85	23.89	**24.45**	0.4944	2.023
Vanadium	51	25.1	24.52	24.53	**24.72**	0.3337	1.35
Zirconium	90	24.77	24.71	24.55	**24.68**	0.1155	0.4679
Zirconium	91	24.18	24.24	24.67	**24.36**	0.2692	1.105
Zirconium	92	24.66	24.78	24.95	**24.8**	0.1455	0.5869

Internal Standard Factors:

Lithium	6	1.011	1.012	1.007	**1.011**	n/a	n/a
Rhodium	103	1.022	1	1.01	**1.022**	n/a	n/a
Indium	115	1.027	1.012	1.01	**1.027**	n/a	n/a
Lutetium	175	1.033	1.01	0.976	**1.033**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICB1			Mean	SD	%RSD
TimeStamp		12/6/11 8:14					
Arsenic	75	0.0314	-0.0357	0.0037	**-0.0002**	0.0337	14160
Cadmium	111	-0.0003	0.0061	0.0045	**0.0034**	0.0033	97.76
Cadmium	114	0.0004	0.0062	0.0079	**0.0049**	0.0039	80.94
Chromium	52	-0.0425	0.0229	-0.0341	**-0.0179**	0.0356	199
Chromium	53	-0.1486	-0.0583	-0.1229	**-0.1099**	0.0465	42.3
Cobalt	59	-0.0003	0.0059	0.007	**0.0042**	0.0039	92.75
Copper	63	-0.0007	0.0069	0.007	**0.0044**	0.0044	100.6
Copper	65	0.0026	0.0085	0.006	**0.0057**	0.0029	51.24
Lead	206	0.0082	0.0105	0.0053	**0.008**	0.0026	32.44
Lead	207	0.0015	0.015	0.0076	**0.0081**	0.0068	83.93
Lead	208	0.0033	0.0122	0.0079	**0.0078**	0.0045	57.06
Molybdenum	95	0.0411	0.0549	0.0425	**0.0462**	0.0076	16.47
Molybdenum	97	0.0433	0.0519	0.0401	**0.0451**	0.0061	13.54
Molybdenum	98	0.0413	0.0478	0.0385	**0.0425**	0.0048	11.26
Nickel	60	0.0057	0.0239	0.0164	**0.0153**	0.0091	59.37
Nickel	62	-0.0171	0.046	-0.0133	**0.0052**	0.0353	681.4
Selenium	77	-0.0793	0.1026	-0.0663	**-0.0143**	0.1015	709.1
Selenium	78	-0.4926	-0.0712	-0.3295	**-0.2978**	0.2125	71.37
Selenium	82	0.0744	-0.0601	-0.054	**-0.0132**	0.076	574.3
Thallium	203	0.0056	0.014	0.0119	**0.0105**	0.0043	41.44
Thallium	205	0.0059	0.0115	0.0093	**0.0089**	0.0028	31.66
Vanadium	51	-0.0163	0.0218	-0.0189	**-0.0045**	0.0228	510.8
Zirconium	90	0.0008	0.002	0.0013	**0.0014**	0.0006	46.04
Zirconium	91	0.0042	-0.0006	-0.0003	**0.0011**	0.0027	243.9
Zirconium	92	0.0211	0.026	0.0224	**0.0232**	0.0026	11.15

Internal Standard Factors:

Lithium	6	0.973	1.028	0.945	**0.973**	n/a	n/a
Rhodium	103	0.976	1.082	0.994	**0.976**	n/a	n/a
Indium	115	0.999	1.071	1.002	**0.999**	n/a	n/a
Lutetium	175	0.976	1.072	0.987	**0.976**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB1			Mean	SD	%RSD
TimeStamp		12/6/11 8:18					
Arsenic	75	0.0654	0.0543	0.0359	**0.0519**	0.0149	28.74
Cadmium	111	-0.0003	0.003	0.0027	**0.0018**	0.0018	99.06
Cadmium	114	0.0013	0.0006	0.0023	**0.0014**	0.0009	61.09
Chromium	52	-0.0192	-0.0173	-0.0156	**-0.0174**	0.0018	10.49
Chromium	53	-0.1335	-0.1527	-0.1734	**-0.1532**	0.0199	13.02
Cobalt	59	0.0018	0.002	0.0024	**0.0021**	0.0003	15.17
Copper	63	0	0.0038	0.0061	**0.0033**	0.0031	92.74
Copper	65	0.0025	0.0021	0.0053	**0.0033**	0.0017	52.51
Lead	206	0.0018	0.0017	0.0008	**0.0014**	0.0006	41.39
Lead	207	0.0001	-0.0018	-0.0012	**-0.001**	0.001	101.2
Lead	208	0.0005	0.0022	0.0009	**0.0012**	0.0009	72.58
Molybdenum	95	0.0161	0.0129	0.0107	**0.0132**	0.0027	20.73
Molybdenum	97	0.0096	0.0133	0.0053	**0.0094**	0.004	42.39
Molybdenum	98	0.016	0.0092	0.0098	**0.0117**	0.0037	31.93
Nickel	60	-0.0015	0.007	-0.0014	**0.0014**	0.0049	350.7
Nickel	62	-0.0195	-0.0229	0.016	**-0.0088**	0.0216	243.9
Selenium	77	-0.0702	-0.0511	-0.0603	**-0.0605**	0.0096	15.8
Selenium	78	-0.3596	-0.282	-0.4982	**-0.38**	0.1095	28.82
Selenium	82	0.1731	0.1726	0.1062	**0.1506**	0.0385	25.56
Thallium	203	0.0005	0.0046	0.0012	**0.0021**	0.0022	106.5
Thallium	205	0.0018	0.0017	0.0014	**0.0016**	0.0002	13.2
Vanadium	51	-0.0031	-0.0077	-0.0041	**-0.005**	0.0025	49.46
Zirconium	90	-0.0022	-0.0015	0.0006	**-0.0011**	0.0015	138.3
Zirconium	91	-0.0026	-0.0004	-0.0011	**-0.0014**	0.0011	77.86
Zirconium	92	0.0067	0.0062	0.0043	**0.0057**	0.0013	22.13

Internal Standard Factors:

Lithium	6	0.977	0.961	0.962	**0.977**	n/a	n/a
Rhodium	103	1.013	0.997	0.998	**1.013**	n/a	n/a
Indium	115	1.018	1.008	1.008	**1.018**	n/a	n/a
Lutetium	175	1.012	0.987	0.999	**1.012**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LLICV			Mean	SD	%RSD
TimeStamp		12/6/11 8:27					
Arsenic	75	1.019	0.9526	1.038	**1.003**	0.045	4.481
Cadmium	111	0.0442	0.0493	0.0438	**0.0457**	0.0031	6.732
Cadmium	114	0.0446	0.0484	0.0419	**0.0449**	0.0033	7.298
Chromium	52	0.3562	0.3483	0.3388	**0.3478**	0.0087	2.501
Chromium	53	0.1734	0.1584	0.1617	**0.1645**	0.0079	4.786
Cobalt	59	0.0528	0.0503	0.0513	**0.0515**	0.0013	2.498
Copper	63	0.2214	0.2198	0.215	**0.2188**	0.0033	1.524
Copper	65	0.2172	0.2184	0.2204	**0.2187**	0.0016	0.7268
Lead	206	0.1168	0.1195	0.1223	**0.1195**	0.0028	2.313
Lead	207	0.1131	0.118	0.1128	**0.1146**	0.0029	2.559
Lead	208	0.1175	0.1163	0.118	**0.1173**	0.0009	0.7342
Molybdenum	95	0.0973	0.0876	0.0975	**0.0941**	0.0056	5.975
Molybdenum	97	0.089	0.1034	0.0866	**0.093**	0.0091	9.78
Molybdenum	98	0.0937	0.0976	0.0956	**0.0956**	0.0019	2.03
Nickel	60	0.4531	0.454	0.4491	**0.4521**	0.0026	0.5842
Nickel	62	0.4906	0.5137	0.4874	**0.4972**	0.0143	2.878
Selenium	77	1.6	1.819	1.638	**1.686**	0.1172	6.955
Selenium	78	1.237	1.172	1.323	**1.244**	0.0753	6.056
Selenium	82	1.833	1.952	2.025	**1.937**	0.0972	5.02
Thallium	203	0.043	0.0431	0.0435	**0.0432**	0.0003	0.5817
Thallium	205	0.0451	0.039	0.0377	**0.0406**	0.004	9.784
Vanadium	51	0.3679	0.3561	0.3442	**0.3561**	0.0119	3.327
Zirconium	90	0.2748	0.2784	0.2571	**0.2701**	0.0114	4.219
Zirconium	91	0.2795	0.2819	0.2664	**0.2759**	0.0083	3.022
Zirconium	92	0.197	0.1961	0.1899	**0.1943**	0.0039	1.987

Internal Standard Factors:							
Lithium	6	0.996	0.96	0.954	**0.996**	n/a	n/a
Rhodium	103	1.001	0.994	0.988	**1.001**	n/a	n/a
Indium	115	1.027	1.029	1.031	**1.027**	n/a	n/a
Lutetium	175	1.074	1.05	1.064	**1.074**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICSA			Mean	SD	%RSD
TimeStamp		12/6/11 8:32					
Arsenic	75	0.1384	0.1405	0.1838	**0.1542**	0.0256	16.62
Cadmium	111	0.1413	0.1511	0.1465	**0.1463**	0.0049	3.365
Cadmium	114	0.109	0.099	0.1004	**0.1028**	0.0054	5.273
Chromium	52	0.4297	0.444	0.4239	**0.4325**	0.0104	2.394
Chromium	53	4.934	4.864	4.981	**4.926**	0.0591	1.2
Cobalt	59	0.8394	0.8392	0.8279	**0.8355**	0.0066	0.7892
Copper	63	0.8583	0.8987	0.9003	**0.8858**	0.0238	2.688
Copper	65	0.6335	0.6506	0.6191	**0.6344**	0.0158	2.483
Lead	206	0.0673	0.0687	0.0694	**0.0685**	0.001	1.502
Lead	207	0.0602	0.0637	0.0707	**0.0649**	0.0054	8.252
Lead	208	0.0639	0.0686	0.0647	**0.0657**	0.0025	3.841
Molybdenum	95	49.58	49.93	49.11	**49.54**	0.4119	0.8313
Molybdenum	97	49.7	50.59	49.89	**50.06**	0.4708	0.9405
Molybdenum	98	49.1	50.44	48.17	**49.24**	1.139	2.313
Nickel	60	2.754	2.667	2.711	**2.71**	0.0436	1.607
Nickel	62	2.726	2.834	2.785	**2.781**	0.0539	1.937
Selenium	77	4.218	4.2	4.12	**4.179**	0.0521	1.248
Selenium	78	0.9212	1.023	0.9828	**0.9755**	0.0511	5.239
Selenium	82	1.181	1.085	1.286	**1.184**	0.1009	8.518
Thallium	203	0.0268	0.0245	0.0242	**0.0252**	0.0014	5.655
Thallium	205	0.0227	0.0226	0.0208	**0.0221**	0.0011	4.878
Vanadium	51	-0.1377	-0.0345	-0.0693	**-0.0805**	0.0525	65.2
Zirconium	90	0.0742	0.0703	0.0697	**0.0714**	0.0025	3.443
Zirconium	91	0.0898	0.0945	0.0925	**0.0923**	0.0024	2.585
Zirconium	92	21.72	22.31	21.72	**21.92**	0.3433	1.566

Internal Standard Factors:

Lithium	6	1.184	1.166	1.145	**1.184**	n/a	n/a
Rhodium	103	1.309	1.339	1.335	**1.309**	n/a	n/a
Indium	115	1.311	1.3	1.315	**1.311**	n/a	n/a
Lutetium	175	1.26	1.26	1.299	**1.26**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICSAB			Mean	SD	%RSD
TimeStamp		12/6/11 8:36					
Arsenic	75	26.23	26.16	26.16	**26.19**	0.041	0.1566
Cadmium	111	23.74	23.58	23.66	**23.66**	0.0843	0.3563
Cadmium	114	23.55	23.8	23.27	**23.54**	0.2626	1.116
Chromium	52	56.98	57.15	56.78	**56.97**	0.1878	0.3297
Chromium	53	57.28	57.21	57.62	**57.37**	0.2223	0.3875
Cobalt	59	59.42	59.96	60	**59.79**	0.3224	0.5391
Copper	63	49.78	49.76	49.65	**49.73**	0.0707	0.1423
Copper	65	49.42	49.6	49.44	**49.49**	0.0958	0.1936
Lead	206	0.126	0.1204	0.1236	**0.1233**	0.0028	2.285
Lead	207	0.1224	0.1133	0.1242	**0.12**	0.0059	4.885
Lead	208	0.1259	0.1232	0.1222	**0.1238**	0.0019	1.546
Molybdenum	95	52.53	52.8	51.94	**52.42**	0.4396	0.8386
Molybdenum	97	51.66	52.42	53.19	**52.42**	0.7642	1.458
Molybdenum	98	53.33	52.53	52.23	**52.69**	0.5677	1.077
Nickel	60	53.35	54.19	53.96	**53.83**	0.4317	0.802
Nickel	62	54.19	54.84	54.43	**54.48**	0.3274	0.6009
Selenium	77	29.72	29.54	29.59	**29.62**	0.0897	0.3028
Selenium	78	26.76	26.68	26.39	**26.61**	0.1933	0.7262
Selenium	82	26.43	26.41	26.5	**26.45**	0.0501	0.1895
Thallium	203	0.0319	0.0309	0.0317	**0.0315**	0.0005	1.594
Thallium	205	0.034	0.0289	0.0336	**0.0322**	0.0028	8.697
Vanadium	51	62.01	62.2	61.8	**62**	0.1994	0.3216
Zirconium	90	0.094	0.0928	0.098	**0.0949**	0.0027	2.865
Zirconium	91	0.1746	0.1753	0.1783	**0.1761**	0.0019	1.104
Zirconium	92	23.12	23	23	**23.04**	0.0698	0.3028

Internal Standard Factors:

Lithium	6	1.206	1.166	1.183	**1.206**	n/a	n/a
Rhodium	103	1.321	1.341	1.353	**1.321**	n/a	n/a
Indium	115	1.302	1.314	1.322	**1.302**	n/a	n/a
Lutetium	175	1.277	1.26	1.296	**1.277**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-MB 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 8:45					
Arsenic	75	0.1055	0.1047	0.0815	**0.0972**	0.0136	14.01
Cadmium	111	0.0142	0.019	0.0196	**0.0176**	0.0029	16.67
Cadmium	114	0.1979	0.1823	0.1834	**0.1879**	0.0087	4.63
Chromium	52	0.1774	0.1527	0.1673	**0.1658**	0.0125	7.518
Chromium	53	-0.3535	-0.4147	-0.3868	**-0.385**	0.0307	7.963
Cobalt	59	0.0193	0.0205	0.0219	**0.0205**	0.0013	6.509
Copper	63	0.0341	0.0417	0.0451	**0.0403**	0.0057	14.04
Copper	65	0.0339	0.0379	0.0355	**0.0358**	0.002	5.53
Lead	206	0.0494	0.0476	0.0489	**0.0486**	0.0009	1.95
Lead	207	0.0436	0.0407	0.0456	**0.0433**	0.0025	5.716
Lead	208	0.0421	0.0422	0.0479	**0.0441**	0.0033	7.494
Molybdenum	95	0.068	0.0551	0.0493	**0.0574**	0.0096	16.69
Molybdenum	97	0.066	0.051	0.0502	**0.0557**	0.0089	15.95
Molybdenum	98	0.0694	0.0531	0.0535	**0.0587**	0.0093	15.89
Nickel	60	0.1136	0.1028	0.1117	**0.1094**	0.0057	5.254
Nickel	62	0.201	0.132	0.1515	**0.1615**	0.0356	22.03
Selenium	77	-0.0555	-0.1056	-0.031	**-0.064**	0.038	59.34
Selenium	78	-0.4159	-0.3671	-0.5175	**-0.4335**	0.0767	17.69
Selenium	82	0.2167	0.1876	0.1901	**0.1981**	0.0161	8.147
Thallium	203	0.0409	0.0335	0.037	**0.0371**	0.0038	10.1
Thallium	205	0.0313	0.0354	0.0356	**0.0341**	0.0024	7.013
Vanadium	51	-0.0101	-0.0033	-0.0099	**-0.0077**	0.0038	49.63
Zirconium	90	0.0117	0.0082	0.0101	**0.01**	0.0018	17.64
Zirconium	91	0.0072	0.0076	0.0112	**0.0087**	0.0022	25.65
Zirconium	92	0.0387	0.0328	0.0301	**0.0339**	0.0044	13.01

Internal Standard Factors:

Lithium	6	1.009	0.999	0.991	**1.009**	n/a	n/a
Rhodium	103	1.077	1.042	1.04	**1.077**	n/a	n/a
Indium	115	1.113	1.088	1.068	**1.113**	n/a	n/a
Lutetium	175	1.138	1.087	1.086	**1.138**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LLLCSW 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 8:54					
Arsenic	75	0.927	0.9669	0.9408	**0.9449**	0.0203	2.144
Cadmium	111	0.0425	0.0542	0.0385	**0.0451**	0.0082	18.13
Cadmium	114	0.203	0.188	0.1865	**0.1925**	0.0091	4.745
Chromium	52	0.5569	0.5296	0.55	**0.5455**	0.0142	2.601
Chromium	53	0.0326	-0.0055	0.022	**0.0164**	0.0196	120
Cobalt	59	0.0564	0.0548	0.0555	**0.0556**	0.0008	1.49
Copper	63	0.2668	0.2698	0.2702	**0.269**	0.0018	0.6826
Copper	65	0.2692	0.2694	0.2659	**0.2682**	0.002	0.7358
Lead	206	0.2253	0.2383	0.2311	**0.2316**	0.0065	2.809
Lead	207	0.2062	0.2285	0.2236	**0.2195**	0.0117	5.337
Lead	208	0.222	0.2312	0.2274	**0.2269**	0.0046	2.046
Molybdenum	95	0.1314	0.1261	0.1252	**0.1276**	0.0033	2.607
Molybdenum	97	0.1277	0.1212	0.1366	**0.1285**	0.0077	6.026
Molybdenum	98	0.1319	0.1312	0.124	**0.129**	0.0044	3.376
Nickel	60	0.4814	0.4664	0.4728	**0.4735**	0.0075	1.591
Nickel	62	0.4957	0.5129	0.5176	**0.5087**	0.0115	2.267
Selenium	77	1.742	1.556	1.728	**1.676**	0.1039	6.198
Selenium	78	1.229	1.277	1.236	**1.247**	0.0259	2.076
Selenium	82	1.755	1.771	1.718	**1.748**	0.0274	1.566
Thallium	203	0.0483	0.0454	0.0446	**0.0461**	0.0019	4.173
Thallium	205	0.0461	0.046	0.0479	**0.0467**	0.0011	2.301
Vanadium	51	0.3665	0.3643	0.3719	**0.3676**	0.0039	1.058
Zirconium	90	0.2526	0.2497	0.2679	**0.2567**	0.0098	3.81
Zirconium	91	0.2455	0.2413	0.2533	**0.2467**	0.0061	2.478
Zirconium	92	0.1959	0.1965	0.1944	**0.1956**	0.0011	0.5457

Internal Standard Factors:

Lithium	6	1.03	0.991	0.981	**1.03**	n/a	n/a
Rhodium	103	1.037	1.016	1.028	**1.037**	n/a	n/a
Indium	115	1.081	1.068	1.064	**1.081**	n/a	n/a
Lutetium	175	1.098	1.103	1.094	**1.098**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LCSW 1/100			Mean	SD	%RSD
TimeStamp		12/6/11 8:59					
Arsenic	75	49.51	48.87	49.24	**49.21**	0.3201	0.6504
Cadmium	111	24.77	24.51	24.53	**24.61**	0.1471	0.5979
Cadmium	114	25.13	24.76	24.4	**24.76**	0.3639	1.47
Chromium	52	9.124	9.122	9.121	**9.123**	0.0018	0.0195
Chromium	53	8.802	8.732	8.716	**8.75**	0.0455	0.5204
Cobalt	59	23.77	23.39	23.35	**23.5**	0.2323	0.9882
Copper	63	12.05	11.89	11.85	**11.93**	0.1051	0.8812
Copper	65	12.06	11.97	11.91	**11.98**	0.0721	0.6021
Lead	206	48.12	48.69	48.73	**48.51**	0.3415	0.704
Lead	207	45.14	45.65	46.38	**45.72**	0.624	1.365
Lead	208	46.28	46.58	46.98	**46.61**	0.3482	0.7471
Molybdenum	95	7.706	8.412	8.529	**8.216**	0.4451	5.418
Molybdenum	97	7.831	8.218	8.468	**8.173**	0.321	3.928
Molybdenum	98	7.79	8.3	8.527	**8.206**	0.3775	4.6
Nickel	60	23.81	23.52	23.49	**23.61**	0.1773	0.751
Nickel	62	24.17	23.73	23.57	**23.82**	0.3143	1.319
Selenium	77	51.94	52.14	51.82	**51.97**	0.1598	0.3076
Selenium	78	53.04	52.94	52.1	**52.69**	0.516	0.9794
Selenium	82	52.98	52.25	52.7	**52.64**	0.3662	0.6956
Thallium	203	46.44	47.02	46.97	**46.81**	0.3239	0.6918
Thallium	205	46.77	46.84	47.14	**46.91**	0.1979	0.4219
Vanadium	51	23.42	22.96	23.73	**23.37**	0.3837	1.642
Zirconium	90	7.847	8.217	8.552	**8.205**	0.3529	4.301
Zirconium	91	7.945	8.312	8.487	**8.248**	0.2769	3.358
Zirconium	92	7.784	8.206	8.578	**8.189**	0.3977	4.856

Internal Standard Factors:

Lithium	6	1.039	1.021	1.033	**1.039**	n/a	n/a
Rhodium	103	0.993	0.979	0.985	**0.993**	n/a	n/a
Indium	115	1.025	1.018	1.009	**1.025**	n/a	n/a
Lutetium	175	1.025	1.025	1.025	**1.025**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		DLCSW 1/100			Mean	SD	%RSD
TimeStamp		12/6/11 9:06					
Arsenic	75	49.49	49.56	49.35	**49.47**	0.108	0.2182
Cadmium	111	24.63	24.86	24.62	**24.7**	0.1374	0.5562
Cadmium	114	24.44	24.37	24.63	**24.48**	0.1383	0.565
Chromium	52	9.248	9.23	9.113	**9.197**	0.0731	0.795
Chromium	53	8.755	8.815	8.82	**8.797**	0.036	0.4091
Cobalt	59	23.49	23.44	23.53	**23.49**	0.0444	0.1892
Copper	63	11.84	11.91	11.99	**11.92**	0.0753	0.632
Copper	65	11.92	11.98	12.01	**11.97**	0.0452	0.378
Lead	206	48.21	47.88	48.1	**48.06**	0.1648	0.343
Lead	207	45.88	45.1	45.86	**45.61**	0.4428	0.9707
Lead	208	46.45	46.3	46.48	**46.41**	0.0945	0.2035
Molybdenum	95	8.085	8.394	8.69	**8.389**	0.3025	3.606
Molybdenum	97	8.053	8.656	8.673	**8.461**	0.3531	4.173
Molybdenum	98	8.155	8.649	8.669	**8.491**	0.2914	3.432
Nickel	60	23.71	23.68	23.73	**23.71**	0.0292	0.1231
Nickel	62	23.61	23.62	23.84	**23.69**	0.1294	0.5461
Selenium	77	52.56	51.6	51.29	**51.82**	0.6618	1.277
Selenium	78	53.02	52.18	52.25	**52.48**	0.4713	0.898
Selenium	82	52.36	52.87	52.55	**52.59**	0.2535	0.4821
Thallium	203	47.35	46.82	47.25	**47.14**	0.2823	0.5988
Thallium	205	46.77	47.15	46.98	**46.96**	0.1872	0.3986
Vanadium	51	23.15	23.02	23.38	**23.18**	0.1839	0.7932
Zirconium	90	8.535	8.826	8.591	**8.651**	0.1543	1.783
Zirconium	91	8.49	8.768	8.815	**8.691**	0.1758	2.023
Zirconium	92	8.281	8.532	8.796	**8.536**	0.2572	3.013

Internal Standard Factors:

Lithium	6	1.045	1.01	1.006	**1.045**	n/a	n/a
Rhodium	103	0.98	0.975	0.981	**0.98**	n/a	n/a
Indium	115	1	1.005	1.006	**1**	n/a	n/a
Lutetium	175	1.015	1.013	1.024	**1.015**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 9:15					
Arsenic	75	12.32	11.87	11.29	**11.83**	0.5172	4.374
Cadmium	111	0.0996	0.0807	0.082	**0.0874**	0.0105	12.02
Cadmium	114	0.1089	0.1009	0.1017	**0.1038**	0.0044	4.263
Chromium	52	36.34	34.85	32.49	**34.56**	1.94	5.615
Chromium	53	37.01	35.19	33.2	**35.13**	1.903	5.418
Cobalt	59	15.53	15.08	14.38	**14.99**	0.5799	3.868
Copper	63	18.26	17.8	16.92	**17.66**	0.6846	3.876
Copper	65	18.78	18.3	17.22	**18.1**	0.7995	4.418
Lead	206	18.71	18.32	17.44	**18.16**	0.6497	3.579
Lead	207	16.54	16.43	15.93	**16.3**	0.324	1.988
Lead	208	17.54	17.16	16.58	**17.09**	0.4864	2.845
Molybdenum	95	1.145	1.103	1.028	**1.092**	0.0594	5.437
Molybdenum	97	1.161	1.108	1.065	**1.111**	0.0481	4.333
Molybdenum	98	1.16	1.129	1.018	**1.103**	0.0745	6.756
Nickel	60	22.51	21.83	20.67	**21.67**	0.9291	4.288
Nickel	62	27.41	26.44	24.93	**26.26**	1.252	4.766
Selenium	77	5.557	5.407	5.321	**5.428**	0.1195	2.201
Selenium	78	0.4582	0.4839	0.2354	**0.3925**	0.1367	34.82
Selenium	82	1.62	1.552	1.438	**1.537**	0.0919	5.978
Thallium	203	0.4249	0.4273	0.4076	**0.4199**	0.0107	2.555
Thallium	205	0.4224	0.4136	0.4004	**0.4122**	0.0111	2.694
Vanadium	51	80.93	77.73	73.85	**77.5**	3.544	4.572
Zirconium	90	3.398	3.195	2.967	**3.187**	0.2156	6.766
Zirconium	91	3.355	3.156	3.005	**3.172**	0.1755	5.532
Zirconium	92	2.434	2.247	2.101	**2.261**	0.167	7.385

Internal Standard Factors:

Lithium	6	1.039	0.995	0.985	**1.039**	n/a	n/a
Rhodium	103	1.097	1.105	1.112	**1.097**	n/a	n/a
Indium	115	1.08	1.098	1.107	**1.08**	n/a	n/a
Lutetium	175	1.07	1.082	1.113	**1.07**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001L 1/25			Mean	SD	%RSD
TimeStamp		12/6/11 9:21					
Arsenic	75	2.489	2.365	2.465	**2.44**	0.0659	2.703
Cadmium	111	0.0198	0.02	0.0218	**0.0205**	0.0011	5.38
Cadmium	114	0.0213	0.0217	0.0217	**0.0216**	0.0003	1.21
Chromium	52	6.452	6.378	6.416	**6.415**	0.0374	0.5832
Chromium	53	6.117	5.934	6.014	**6.021**	0.0917	1.523
Cobalt	59	2.711	2.656	2.707	**2.691**	0.0307	1.141
Copper	63	3.314	3.29	3.302	**3.302**	0.0121	0.367
Copper	65	3.35	3.378	3.377	**3.368**	0.0158	0.4692
Lead	206	3.479	3.5	3.538	**3.506**	0.0295	0.8426
Lead	207	3.191	3.152	3.138	**3.16**	0.0275	0.8711
Lead	208	3.272	3.305	3.326	**3.301**	0.0271	0.8202
Molybdenum	95	0.1964	0.1948	0.1856	**0.1923**	0.0058	3.015
Molybdenum	97	0.1975	0.1878	0.1895	**0.1916**	0.0052	2.7
Molybdenum	98	0.1703	0.1805	0.1865	**0.1791**	0.0082	4.562
Nickel	60	3.958	3.911	4.04	**3.97**	0.0652	1.643
Nickel	62	4.667	4.585	4.748	**4.667**	0.0817	1.751
Selenium	77	0.9069	0.9521	0.9265	**0.9285**	0.0227	2.44
Selenium	78	-0.5113	-0.3725	-0.3325	**-0.4054**	0.0938	23.14
Selenium	82	0.4813	0.328	0.3881	**0.3991**	0.0773	19.35
Thallium	203	0.0807	0.0841	0.0852	**0.0833**	0.0023	2.781
Thallium	205	0.085	0.086	0.0892	**0.0867**	0.0022	2.549
Vanadium	51	12.5	12.59	12.57	**12.55**	0.0464	0.3699
Zirconium	90	0.4814	0.4878	0.505	**0.4914**	0.0122	2.485
Zirconium	91	0.4852	0.4951	0.5136	**0.498**	0.0145	2.904
Zirconium	92	0.3572	0.3625	0.3606	**0.3601**	0.0027	0.7453

Internal Standard Factors:

Lithium	6	1.031	1.02	1.023	**1.031**	n/a	n/a
Rhodium	103	1.036	1.024	1.046	**1.036**	n/a	n/a
Indium	115	1.061	1.057	1.062	**1.061**	n/a	n/a
Lutetium	175	1.064	1.04	1.085	**1.064**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001A 1/5, +50 ppb			Mean	SD	%RSD
TimeStamp		12/6/11 9:26					
Arsenic	75	59.58	58.35	58.26	**58.73**	0.7348	1.251
Cadmium	111	47.39	47.29	47.51	**47.39**	0.1106	0.2334
Cadmium	114	48.21	48.5	48.65	**48.45**	0.2221	0.4584
Chromium	52	83.73	81.46	81.9	**82.36**	1.2	1.457
Chromium	53	80.87	78.62	78.82	**79.44**	1.243	1.565
Cobalt	59	66.62	66	66.32	**66.31**	0.3096	0.4668
Copper	63	62.67	61.86	61.93	**62.15**	0.4525	0.7281
Copper	65	63.14	62.87	62.7	**62.9**	0.2229	0.3543
Lead	206	63.02	63.33	62.85	**63.07**	0.2465	0.3909
Lead	207	62.47	61.59	61.15	**61.74**	0.6719	1.088
Lead	208	62	62.37	62.26	**62.21**	0.1893	0.3043
Molybdenum	95	52.91	53.35	52.48	**52.91**	0.4324	0.8173
Molybdenum	97	53.85	52.47	52.07	**52.79**	0.9349	1.771
Molybdenum	98	53.95	52.78	52.73	**53.15**	0.6927	1.303
Nickel	60	67.38	66.33	66.01	**66.58**	0.7176	1.078
Nickel	62	71.29	70.18	70.71	**70.73**	0.5553	0.7851
Selenium	77	52.01	51.08	50.65	**51.25**	0.6934	1.353
Selenium	78	48.35	48	47.58	**47.98**	0.3862	0.8049
Selenium	82	49.77	48.24	47.79	**48.6**	1.04	2.139
Thallium	203	49.05	48.93	49.01	**48.99**	0.0591	0.1206
Thallium	205	47.87	48.77	49.79	**48.81**	0.9606	1.968
Vanadium	51	118.5	117.9	117.7	**118**	0.415	0.3516
~~Zirconium~~	~~90~~	~~2.633~~	~~2.525~~	~~2.554~~	~~**2.571**~~	~~0.0555~~	~~2.158~~
Zirconium	91	2.703	2.643	2.583	**2.643**	0.06	2.27
Zirconium	92	25.27	24.78	24.71	**24.92**	0.3076	1.234

12/6/11

not Added See +50 Zr

Internal Standard Factors:							
Lithium	6	1.055	1.027	1.016	**1.055**	n/a	n/a
Rhodium	103	1.076	1.067	1.079	**1.076**	n/a	n/a
Indium	115	1.042	1.052	1.055	**1.042**	n/a	n/a
Lutetium	175	1.037	1.044	1.064	**1.037**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001A 1/5, +50 ppb Zr			Mean	SD	%RSD
TimeStamp		12/6/11 9:38					
Arsenic	75	10.27	10.32	10.05	**10.21**	0.1442	1.412
Cadmium	111	0.1138	0.124	0.115	**0.1176**	0.0056	4.743
Cadmium	114	0.0994	0.1019	0.0932	**0.0982**	0.0045	4.557
Chromium	52	29.35	28.86	28.51	**28.91**	0.4238	1.466
Chromium	53	29.96	29.74	29.03	**29.58**	0.482	1.63
Cobalt	59	12.64	12.57	12.42	**12.54**	0.1155	0.9207
Copper	63	14.97	15.04	14.87	**14.96**	0.0849	0.5673
Copper	65	15.38	15.37	15.24	**15.33**	0.0793	0.5174
Lead	206	15.54	15.42	15.19	**15.38**	0.1763	1.146
Lead	207	13.86	14.03	13.97	**13.96**	0.0849	0.6081
Lead	208	14.55	14.55	14.54	**14.55**	0.0045	0.0313
Molybdenum	95	1.018	0.9485	0.9088	**0.9584**	0.0553	5.771
Molybdenum	97	1.017	0.9759	0.9194	**0.9709**	0.0492	5.066
Molybdenum	98	0.968	0.9688	0.9409	**0.9592**	0.0159	1.653
Nickel	60	18.46	18.34	18.15	**18.32**	0.1529	0.8346
Nickel	62	22.23	22.14	21.92	**22.09**	0.1587	0.7181
Selenium	77	5.124	4.833	4.853	**4.936**	0.1625	3.292
Selenium	78	0.3301	0.3684	0.276	**0.3248**	0.0464	14.29
Selenium	82	1.272	1.36	1.22	**1.284**	0.0705	5.489
Thallium	203	0.3653	0.3684	0.3696	**0.3678**	0.0022	0.607
Thallium	205	0.3723	0.3677	0.3651	**0.3684**	0.0036	0.98
Vanadium	51	66.29	65.08	64.66	**65.34**	0.8504	1.301
Zirconium	90	53.83	53.27	52.03	**53.05**	0.9202	1.735
Zirconium	91	54.32	53.45	52.41	**53.39**	0.9541	1.787
Zirconium	92	31.1	30.54	29.79	**30.48**	0.6573	2.157

Internal Standard Factors:

Lithium	6	1.002	0.968	0.977	**1.002**	n/a	n/a
Rhodium	103	1.083	1.087	1.084	**1.083**	n/a	n/a
Indium	115	1.067	1.101	1.093	**1.067**	n/a	n/a
Lutetium	175	1.064	1.076	1.093	**1.064**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001S 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 9:43					
Arsenic	75	101.8	101.8	101.5	**101.7**	0.1621	0.1594
Cadmium	111	9.242	9.322	8.92	**9.162**	0.2129	2.324
Cadmium	114	9.221	9.175	8.902	**9.099**	0.1723	1.894
Chromium	52	82.68	82.82	83.36	**82.95**	0.3577	0.4312
Chromium	53	79.86	79.1	79.35	**79.44**	0.3846	0.4841
Cobalt	59	110	109.8	112	**110.6**	1.207	1.092
Copper	63	61.26	61.16	61.57	**61.33**	0.2141	0.3491
Copper	65	62.29	62.45	62.83	**62.52**	0.2793	0.4467
Lead	206	103.8	106.5	107.3	**105.9**	1.836	1.735
Lead	207	105.7	108	107.4	**107**	1.151	1.075
Lead	208	108.8	111.8	110.8	**110.5**	1.529	1.383
Molybdenum	95	94.7	94.7	94.74	**94.71**	0.0201	0.0212
Molybdenum	97	94.52	95.96	93.43	**94.64**	1.27	1.342
Molybdenum	98	94.46	93.93	95.57	**94.66**	0.8364	0.8836
Nickel	60	112.3	112.9	113.9	**113**	0.7749	0.6855
Nickel	62	117.9	118.5	119.5	**118.6**	0.8405	0.7084
Selenium	77	91.14	89.94	91.86	**90.98**	0.9694	1.065
Selenium	78	88.47	87.39	87.85	**87.9**	0.5378	0.6118
Selenium	82	86.8	86.75	86.91	**86.82**	0.0814	0.0938
Thallium	203	89.06	94.95	92.12	**92.05**	2.946	3.2
Thallium	205	99.77	102	101.5	**101.1**	1.164	1.152
Vanadium	51	192	190.5	189	**190.5**	1.502	0.7887
Zirconium	90	42.99	42.48	42.1	**42.52**	0.4452	1.047
Zirconium	91	42.63	42.28	42.15	**42.35**	0.2447	0.5777
Zirconium	92	65.19	65.28	64.11	**64.86**	0.6501	1.002

Internal Standard Factors:

Lithium	6	1.017	0.989	0.984	**1.017**	n/a	n/a
Rhodium	103	1.076	1.084	1.108	**1.076**	n/a	n/a
Indium	115	1.07	1.084	1.082	**1.07**	n/a	n/a
Lutetium	175	1.049	1.092	1.116	**1.049**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001SD 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 9:47					
Arsenic	75	101.8	103.1	101.5	**102.2**	0.8589	0.8407
Cadmium	111	9.018	8.975	8.987	**8.993**	0.0222	0.2471
Cadmium	114	8.834	8.83	8.896	**8.853**	0.0369	0.4167
Chromium	52	82.18	82.4	81.95	**82.18**	0.2239	0.2724
Chromium	53	77.95	78.66	77.4	**78**	0.6357	0.8149
Cobalt	59	113.9	115.3	114.4	**114.5**	0.7162	0.6253
Copper	63	62.26	63.31	61.98	**62.52**	0.701	1.121
Copper	65	63.24	64.35	62.91	**63.5**	0.7561	1.191
Lead	206	107.9	111.2	106.9	**108.7**	2.256	2.076
Lead	207	109.8	112.1	109.7	**110.5**	1.34	1.213
Lead	208	115.5	116.7	114.4	**115.5**	1.185	1.026
Molybdenum	95	91.8	93.42	93.74	**92.99**	1.04	1.119
Molybdenum	97	94.05	93.55	94.41	**94**	0.4328	0.4604
Molybdenum	98	93.49	95.24	93.63	**94.12**	0.9701	1.031
Nickel	60	113.3	114.5	113.6	**113.8**	0.6638	0.5833
Nickel	62	117.2	120.9	118.8	**119**	1.882	1.582
Selenium	77	87.63	87.84	86.93	**87.47**	0.4768	0.5451
Selenium	78	84.82	85.71	84.64	**85.06**	0.5727	0.6733
Selenium	82	84.74	85.24	84.84	**84.94**	0.267	0.3143
Thallium	203	89.68	90.09	90.55	**90.11**	0.4364	0.4844
Thallium	205	99.65	98.6	99.25	**99.17**	0.5329	0.5374
Vanadium	51	190.4	194.4	194.3	**193**	2.317	1.2
Zirconium	90	40.36	41.74	41.08	**41.06**	0.6928	1.687
Zirconium	91	41.28	41.6	41.37	**41.42**	0.1649	0.3981
Zirconium	92	63.68	65.15	63.46	**64.1**	0.9206	1.436

Internal Standard Factors:							
Lithium	6	1.01	0.99	1.002	**1.01**	n/a	n/a
Rhodium	103	1.102	1.126	1.127	**1.102**	n/a	n/a
Indium	115	1.1	1.095	1.129	**1.1**	n/a	n/a
Lutetium	175	1.094	1.107	1.114	**1.094**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV2			Mean	SD	%RSD
TimeStamp		12/6/11 9:52					
Arsenic	75	22.67	23.24	23.42	**23.11**	0.392	1.696
Cadmium	111	23.18	23.43	23.43	**23.35**	0.1453	0.6224
Cadmium	114	23.26	23.74	23.68	**23.56**	0.2608	1.107
Chromium	52	23.04	23.66	23.63	**23.44**	0.3498	1.492
Chromium	53	22.69	23.23	23.29	**23.07**	0.3332	1.445
Cobalt	59	23.64	24.12	24.12	**23.96**	0.2776	1.159
Copper	63	23.4	23.83	24	**23.75**	0.3102	1.307
Copper	65	23.32	24.09	23.98	**23.79**	0.4174	1.754
Lead	206	22.76	23.64	23.4	**23.27**	0.4537	1.95
Lead	207	22.48	23.38	23.45	**23.1**	0.5397	2.337
Lead	208	22.58	23.49	23.31	**23.13**	0.483	2.088
Molybdenum	95	23.23	24.11	23.9	**23.75**	0.4569	1.924
Molybdenum	97	22.97	24.01	23.9	**23.63**	0.5713	2.418
Molybdenum	98	23.31	24.11	23.78	**23.73**	0.3981	1.677
Nickel	60	23.42	24.22	24.05	**23.9**	0.4176	1.748
Nickel	62	23.64	24.34	24.42	**24.13**	0.4277	1.772
Selenium	77	22.38	22.91	23.03	**22.77**	0.3442	1.511
Selenium	78	22.25	22.73	23.2	**22.73**	0.4721	2.077
Selenium	82	22.26	23.24	23.47	**22.99**	0.6438	2.8
Thallium	203	22.77	23.36	23.8	**23.31**	0.5201	2.231
Thallium	205	22.96	23.57	23.21	**23.25**	0.3057	1.315
Vanadium	51	23.23	23.52	23.68	**23.48**	0.2267	0.9654
Zirconium	90	22.79	23.3	23.36	**23.15**	0.3112	1.344
Zirconium	91	22.76	23.48	23.25	**23.16**	0.3715	1.604
Zirconium	92	22.77	23.58	23.6	**23.32**	0.4716	2.023

Internal Standard Factors:

Lithium	6	0.98	0.977	0.969	**0.98**	n/a	n/a
Rhodium	103	1.005	1.01	1.005	**1.005**	n/a	n/a
Indium	115	1.041	1.045	1.034	**1.041**	n/a	n/a
Lutetium	175	1.052	1.063	1.057	**1.052**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB2			Mean	SD	%RSD
TimeStamp		12/6/11 10:02					
Arsenic	75	0.0684	0.0679	0.0512	**0.0625**	0.0098	15.65
Cadmium	111	-0.0001	0.0051	0.0086	**0.0045**	0.0044	96.97
Cadmium	114	0.0014	0.0055	0.0049	**0.004**	0.0022	55.66
Chromium	52	-0.0238	-0.0116	-0.0241	**-0.0198**	0.0072	36.17
Chromium	53	-0.6741	-0.69	-0.6719	**-0.6786**	0.0099	1.454
Cobalt	59	0.0031	0.0119	0.0138	**0.0096**	0.0057	59.77
Copper	63	0.0091	0.0184	0.0163	**0.0146**	0.0048	33.16
Copper	65	0.0075	0.019	0.0172	**0.0145**	0.0062	42.63
Lead	206	0.005	0.0163	0.0188	**0.0134**	0.0074	55.11
Lead	207	0.0037	0.0159	0.0176	**0.0124**	0.0076	61.41
Lead	208	0.0059	0.0175	0.0179	**0.0138**	0.0068	49.44
Molybdenum	95	0.0305	0.0374	0.0319	**0.0333**	0.0036	10.88
Molybdenum	97	0.0264	0.0309	0.0375	**0.0316**	0.0056	17.61
Molybdenum	98	0.0281	0.0319	0.0328	**0.0309**	0.0025	8.132
Nickel	60	0.0343	0.0696	0.0663	**0.0568**	0.0195	34.34
Nickel	62	0.0328	0.0755	0.0621	**0.0568**	0.0219	38.48
Selenium	77	-0.0898	-0.0913	-0.0864	**-0.0892**	0.0025	2.809
Selenium	78	-0.4405	-0.6323	-0.683	**-0.5853**	0.1279	21.85
Selenium	82	0.1976	0.1757	0.116	**0.1631**	0.0423	25.91
Thallium	203	0.0054	0.0134	0.0163	**0.0117**	0.0057	48.45
Thallium	205	0.0039	0.0143	0.015	**0.0111**	0.0062	56.01
Vanadium	51	-0.0214	-0.0013	-0.0105	**-0.0111**	0.01	90.47
Zirconium	90	0.0002	-0.003	-0.0021	**-0.0017**	0.0017	101.3
Zirconium	91	-0.0027	-0.0031	0.0007	**-0.0017**	0.0021	122.7
Zirconium	92	0.0112	0.0191	0.0187	**0.0163**	0.0044	27.12

Internal Standard Factors:

Lithium	6	1.005	0.966	0.952	**1.005**	n/a	n/a
Rhodium	103	1.035	1.012	1.019	**1.035**	n/a	n/a
Indium	115	1.075	1.046	1.05	**1.075**	n/a	n/a
Lutetium	175	1.094	1.076	1.091	**1.094**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:07					
Arsenic	75	14.86	15.15	14.61	**14.87**	0.2731	1.836
Cadmium	111	0.2322	0.2483	0.2174	**0.2327**	0.0155	6.642
Cadmium	114	0.2515	0.2622	0.265	**0.2596**	0.0071	2.739
Chromium	52	73.53	73.18	72.2	**72.97**	0.6883	0.9433
Chromium	53	66.72	66.95	66.11	**66.59**	0.4352	0.6535
Cobalt	59	25.77	25.69	25.36	**25.6**	0.218	0.8516
Copper	63	44.05	44.18	43.78	**44**	0.2073	0.471
Copper	65	45.43	45.43	44.97	**45.28**	0.2648	0.5849
Lead	206	31.91	32.12	30.95	**31.66**	0.6233	1.969
Lead	207	29.52	28.87	28.27	**28.89**	0.6217	2.152
Lead	208	30.57	30.35	29.32	**30.08**	0.6646	2.209
Molybdenum	95	1.125	1.181	1.153	**1.153**	0.028	2.429
Molybdenum	97	1.2	1.187	1.151	**1.179**	0.0252	2.14
Molybdenum	98	1.145	1.145	1.161	**1.15**	0.009	0.7782
Nickel	60	42.32	42.22	41.68	**42.07**	0.3407	0.8098
Nickel	62	51.14	51.57	50.99	**51.23**	0.2989	0.5833
Selenium	77	6.278	6.113	6.172	**6.188**	0.0835	1.349
Selenium	78	1.01	0.8134	0.7983	**0.8741**	0.1184	13.54
Selenium	82	1.957	2.064	1.874	**1.965**	0.0955	4.862
Thallium	203	0.8646	0.8342	0.8291	**0.8427**	0.0192	2.281
Thallium	205	0.8669	0.8495	0.8272	**0.8479**	0.0199	2.344
Vanadium	51	108.1	108.1	105.9	**107.4**	1.279	1.191
Zirconium	90	2.65	2.712	2.62	**2.661**	0.0469	1.762
Zirconium	91	2.641	2.709	2.599	**2.65**	0.0554	2.091
Zirconium	92	1.995	1.984	1.962	**1.981**	0.0166	0.8355

Internal Standard Factors:

Lithium	6	0.99	0.983	0.97	**0.99**	n/a	n/a
Rhodium	103	1.164	1.18	1.19	**1.164**	n/a	n/a
Indium	115	1.123	1.158	1.175	**1.123**	n/a	n/a
Lutetium	175	1.142	1.136	1.14	**1.142**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:11					
Arsenic	75	7.524	7.51	7.391	**7.475**	0.0733	0.9808
Cadmium	111	0.4865	0.4804	0.4586	**0.4752**	0.0147	3.091
Cadmium	114	0.4965	0.4964	0.5124	**0.5018**	0.0092	1.831
Chromium	52	25.51	25.02	25.5	**25.34**	0.28	1.105
Chromium	53	25.58	25.2	25.34	**25.37**	0.1914	0.7542
Cobalt	59	11.01	10.74	10.89	**10.88**	0.1352	1.243
Copper	63	15.41	15.25	15.05	**15.24**	0.1772	1.163
Copper	65	15.88	15.57	15.72	**15.72**	0.1546	0.9835
Lead	206	18.64	18.14	18.27	**18.35**	0.2564	1.397
Lead	207	17.33	17.23	16.83	**17.13**	0.2642	1.543
Lead	208	17.72	17.7	17.56	**17.66**	0.0829	0.4694
Molybdenum	95	1.271	1.243	1.309	**1.274**	0.0331	2.6
Molybdenum	97	1.256	1.285	1.272	**1.271**	0.0143	1.128
Molybdenum	98	1.249	1.301	1.298	**1.283**	0.0293	2.284
Nickel	60	22.06	21.44	21.77	**21.76**	0.3069	1.411
Nickel	62	26.75	25.9	26.05	**26.23**	0.4566	1.741
Selenium	77	3.674	3.417	3.887	**3.659**	0.2353	6.431
Selenium	78	0.2106	0.1051	0.1922	**0.1693**	0.0563	33.27
Selenium	82	1.053	1.189	1.136	**1.126**	0.0685	6.087
Thallium	203	0.3512	0.3565	0.346	**0.3513**	0.0052	1.489
Thallium	205	0.3632	0.356	0.3604	**0.3599**	0.0036	1.002
Vanadium	51	60.91	60.1	60.41	**60.47**	0.413	0.6829
Zirconium	90	3.528	3.597	3.676	**3.6**	0.0743	2.063
Zirconium	91	3.59	3.571	3.58	**3.58**	0.009	0.2525
Zirconium	92	2.572	2.575	2.594	**2.58**	0.0117	0.4523

Internal Standard Factors:

Lithium	6	1.016	1.03	1.023	**1.016**	n/a	n/a
Rhodium	103	1.164	1.146	1.16	**1.164**	n/a	n/a
Indium	115	1.151	1.15	1.15	**1.151**	n/a	n/a
Lutetium	175	1.15	1.125	1.127	**1.15**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:16					
Arsenic	75	12.33	12.59	12.4	**12.44**	0.1369	1.1
Cadmium	111	0.6227	0.6234	0.6247	**0.6236**	0.001	0.1643
Cadmium	114	0.6346	0.6465	0.6515	**0.6442**	0.0087	1.347
Chromium	52	51.47	52.92	52.38	**52.26**	0.7327	1.402
Chromium	53	46.77	47.96	47.44	**47.39**	0.5917	1.249
Cobalt	59	17.7	18.18	17.98	**17.95**	0.2415	1.345
Copper	63	24.85	25.52	25.33	**25.23**	0.3451	1.368
Copper	65	25.37	26.17	25.77	**25.77**	0.4012	1.557
Lead	206	26.58	26.96	26.45	**26.66**	0.2629	0.9861
Lead	207	24.39	24.76	23.49	**24.21**	0.651	2.689
Lead	208	25.19	25.75	25.06	**25.33**	0.3689	1.456
Molybdenum	95	1.397	1.429	1.416	**1.414**	0.0163	1.154
Molybdenum	97	1.428	1.407	1.37	**1.402**	0.0294	2.1
Molybdenum	98	1.371	1.432	1.408	**1.404**	0.0308	2.196
Nickel	60	43.74	44.97	44.53	**44.42**	0.6241	1.405
Nickel	62	49.05	51.03	51.31	**50.46**	1.23	2.437
Selenium	77	3.933	4.102	3.923	**3.986**	0.1008	2.528
Selenium	78	0.4219	0.5621	0.2681	**0.4174**	0.147	35.23
Selenium	82	1.252	1.195	1.272	**1.24**	0.0398	3.21
Thallium	203	0.5476	0.5517	0.5407	**0.5467**	0.0055	1.014
Thallium	205	0.5368	0.546	0.5454	**0.5428**	0.0051	0.9458
Vanadium	51	91.28	91.62	91.9	**91.6**	0.3142	0.343
Zirconium	90	6.91	6.991	6.983	**6.961**	0.0446	0.64
Zirconium	91	6.944	6.965	6.944	**6.951**	0.012	0.1725
Zirconium	92	4.445	4.537	4.418	**4.467**	0.0621	1.39

Internal Standard Factors:

Lithium	6	1.044	1.022	1.014	**1.044**	n/a	n/a
Rhodium	103	1.154	1.18	1.179	**1.154**	n/a	n/a
Indium	115	1.155	1.174	1.187	**1.155**	n/a	n/a
Lutetium	175	1.133	1.153	1.149	**1.133**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-003 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:20					
Arsenic	75	8.877	7.99	8.099	**8.322**	0.484	5.816
Cadmium	111	0.3764	0.3348	0.3262	**0.3458**	0.0268	7.762
Cadmium	114	0.4083	0.3553	0.3626	**0.3754**	0.0287	7.65
Chromium	52	27.57	24.75	24.39	**25.57**	1.739	6.8
Chromium	53	27.79	24.84	24.27	**25.63**	1.891	7.376
Cobalt	59	12.22	11.02	11	**11.41**	0.7026	6.156
Copper	63	15.79	14.37	14.12	**14.76**	0.9	6.097
Copper	65	16.25	14.73	14.58	**15.19**	0.921	6.065
Lead	206	29.51	27.02	26.48	**27.67**	1.618	5.846
Lead	207	27.81	25.16	25.1	**26.02**	1.548	5.947
Lead	208	28.53	25.88	25.84	**26.75**	1.545	5.777
Molybdenum	95	1.032	0.9173	0.9183	**0.9559**	0.066	6.903
Molybdenum	97	1.012	0.9182	0.9218	**0.9507**	0.0533	5.604
Molybdenum	98	1.006	0.8993	0.9082	**0.9378**	0.0592	6.307
Nickel	60	23.17	21.07	20.81	**21.68**	1.296	5.976
Nickel	62	27.46	24.91	24.97	**25.78**	1.457	5.65
Selenium	77	5.003	4.746	4.147	**4.632**	0.4391	9.48
Selenium	78	0.5748	0.2047	0.1228	**0.3008**	0.2408	80.06
Selenium	82	1.311	1.377	1.274	**1.321**	0.0524	3.97
Thallium	203	0.3555	0.3163	0.3394	**0.337**	0.0197	5.838
Thallium	205	0.3505	0.3259	0.3236	**0.3334**	0.0149	4.48
Vanadium	51	60.85	55.26	54.42	**56.84**	3.498	6.154
Zirconium	90	2.71	2.393	2.348	**2.484**	0.197	7.934
Zirconium	91	2.677	2.375	2.353	**2.468**	0.1809	7.328
Zirconium	92	1.964	1.769	1.753	**1.829**	0.1177	6.439

Internal Standard Factors:

Lithium	6	1.085	0.997	1.013	**1.085**	n/a	n/a
Rhodium	103	1.243	1.178	1.161	**1.243**	n/a	n/a
Indium	115	1.26	1.161	1.172	**1.26**	n/a	n/a
Lutetium	175	1.21	1.148	1.145	**1.21**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-004 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:25					
Arsenic	75	10.28	10.34	10.36	**10.33**	0.0394	0.3815
Cadmium	111	0.4068	0.4185	0.405	**0.4101**	0.0073	1.783
Cadmium	114	0.4261	0.4028	0.4051	**0.4113**	0.0129	3.129
Chromium	52	88.57	90.27	88.54	**89.13**	0.9894	1.11
Chromium	53	82.17	82.93	81.38	**82.16**	0.7762	0.9447
Cobalt	59	53.62	54.66	53.83	**54.04**	0.5481	1.014
Copper	63	96.46	97.9	97.06	**97.14**	0.7245	0.7458
Copper	65	97.84	99.58	98.53	**98.65**	0.8798	0.8918
Lead	206	15.49	16.49	15.26	**15.75**	0.6537	4.151
Lead	207	14.26	14.47	14.21	**14.31**	0.1392	0.9724
Lead	208	14.83	15.2	14.56	**14.86**	0.3208	2.159
Molybdenum	95	0.8258	0.8182	0.8175	**0.8205**	0.0046	0.5598
Molybdenum	97	0.8308	0.799	0.812	**0.8139**	0.016	1.967
Molybdenum	98	0.7931	0.8438	0.7799	**0.8056**	0.0337	4.187
Nickel	60	103.8	106.1	104.5	**104.8**	1.196	1.141
Nickel	62	108.2	110.5	108	**108.9**	1.415	1.299
Selenium	77	3.407	3.638	3.387	**3.477**	0.1395	4.012
Selenium	78	0.1537	0.4985	0.2461	**0.2994**	0.1785	59.61
Selenium	82	1.482	1.502	1.363	**1.449**	0.0753	5.197
Thallium	203	0.3252	0.3414	0.323	**0.3299**	0.0101	3.051
Thallium	205	0.3186	0.3433	0.3226	**0.3282**	0.0132	4.036
Vanadium	51	108.9	110.2	109.2	**109.4**	0.6748	0.6166
Zirconium	90	5.815	5.941	5.709	**5.821**	0.1158	1.989
Zirconium	91	5.847	5.89	5.908	**5.882**	0.0313	0.5321
Zirconium	92	3.647	3.641	3.59	**3.626**	0.0313	0.8618

Internal Standard Factors:

Lithium	6	1.1	1.085	1.058	**1.1**	n/a	n/a
Rhodium	103	1.194	1.217	1.215	**1.194**	n/a	n/a
Indium	115	1.179	1.194	1.211	**1.179**	n/a	n/a
Lutetium	175	1.151	1.195	1.179	**1.151**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110227-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:29					
Arsenic	75	5.427	5.537	5.542	**5.502**	0.0651	1.182
Cadmium	111	0.3237	0.3378	0.3588	**0.3401**	0.0177	5.191
Cadmium	114	0.3406	0.3489	0.3443	**0.3446**	0.0041	1.197
Chromium	52	27.98	27.86	27.81	**27.88**	0.0895	0.3209
Chromium	53	27.5	27.71	27.27	**27.49**	0.2184	0.7944
Cobalt	59	30.11	30.08	30.11	**30.1**	0.0165	0.0549
Copper	63	39.17	39.64	39.55	**39.45**	0.2526	0.6401
Copper	65	39.69	39.99	40.02	**39.9**	0.1818	0.4557
Lead	206	16.52	16.46	16.48	**16.49**	0.0346	0.2098
Lead	207	15.42	15.32	15.48	**15.41**	0.0815	0.5289
Lead	208	15.77	15.71	15.73	**15.73**	0.0294	0.1871
Molybdenum	95	1.049	1.028	1.021	**1.033**	0.0144	1.389
Molybdenum	97	1.056	1.091	1.049	**1.066**	0.0226	2.125
Molybdenum	98	1.008	1.022	1.047	**1.026**	0.0198	1.929
Nickel	60	31.96	31.92	32.1	**31.99**	0.0923	0.2883
Nickel	62	35.22	35.48	35.62	**35.44**	0.2014	0.5683
Selenium	77	5.588	5.37	5.198	**5.385**	0.1956	3.632
Selenium	78	0.5419	0.5037	0.6032	**0.5496**	0.0502	9.126
Selenium	82	1.999	2.002	1.974	**1.992**	0.0153	0.7675
Thallium	203	0.259	0.2603	0.256	**0.2584**	0.0022	0.8529
Thallium	205	0.2582	0.2547	0.2554	**0.2561**	0.0019	0.7282
Vanadium	51	134.9	136.5	136.5	**136**	0.9019	0.6632
Zirconium	90	19.11	18.96	18.46	**18.84**	0.3388	1.798
Zirconium	91	18.65	18.97	18.74	**18.79**	0.166	0.8834
Zirconium	92	11	11	10.99	**11**	0.0047	0.0425

Internal Standard Factors:

Lithium	6	1.077	1.063	1.066	**1.077**	n/a	n/a
Rhodium	103	1.199	1.219	1.229	**1.199**	n/a	n/a
Indium	115	1.203	1.211	1.247	**1.203**	n/a	n/a
Lutetium	175	1.14	1.157	1.179	**1.14**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110363-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:33					
Arsenic	75	18.16	18.36	18.44	**18.32**	0.1441	0.7865
Cadmium	111	0.3092	0.3135	0.3058	**0.3095**	0.0038	1.241
Cadmium	114	0.3347	0.3197	0.3475	**0.334**	0.0139	4.159
Chromium	52	51.95	52.1	51.88	**51.97**	0.1163	0.2238
Chromium	53	46.23	46.14	45.79	**46.06**	0.2344	0.509
Cobalt	59	21.51	21.6	21.72	**21.61**	0.1015	0.4696
Copper	63	29.15	29.09	28.79	**29.01**	0.1904	0.6562
Copper	65	29.35	29.48	29.27	**29.37**	0.1092	0.3718
Lead	206	22.61	22.22	22.74	**22.52**	0.2719	1.207
Lead	207	20.68	20.6	21.19	**20.83**	0.3181	1.528
Lead	208	21.58	21.38	21.8	**21.58**	0.2095	0.9705
Molybdenum	95	1.428	1.384	1.38	**1.397**	0.0269	1.921
Molybdenum	97	1.4	1.378	1.374	**1.384**	0.0139	1.001
Molybdenum	98	1.391	1.408	1.364	**1.388**	0.0223	1.605
Nickel	60	62.48	62.89	63.02	**62.8**	0.2815	0.4483
Nickel	62	67.58	66.75	67.69	**67.34**	0.5155	0.7655
Selenium	77	5.399	5.167	5.2	**5.255**	0.1253	2.384
Selenium	78	0.3053	0.514	0.3184	**0.3792**	0.1169	30.83
Selenium	82	1.78	1.55	1.566	**1.632**	0.1285	7.873
Thallium	203	0.4427	0.4298	0.4657	**0.4461**	0.0182	4.084
Thallium	205	0.4352	0.4305	0.4243	**0.43**	0.0055	1.269
Vanadium	51	84	83.33	84.9	**84.07**	0.7861	0.935
Zirconium	90	3.023	2.97	3.024	**3.006**	0.031	1.03
Zirconium	91	2.872	3.057	2.904	**2.944**	0.099	3.363
Zirconium	92	2.268	2.267	2.275	**2.27**	0.0046	0.201

Internal Standard Factors:

Lithium	6	1.048	1.025	1.039	**1.048**	n/a	n/a
Rhodium	103	1.208	1.205	1.213	**1.208**	n/a	n/a
Indium	115	1.213	1.212	1.216	**1.213**	n/a	n/a
Lutetium	175	1.184	1.176	1.199	**1.184**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110363-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:38					
Arsenic	75	8.004	8.045	8.207	**8.085**	0.1074	1.328
Cadmium	111	0.3746	0.3973	0.4032	**0.3917**	0.0151	3.848
Cadmium	114	0.3993	0.4043	0.4158	**0.4065**	0.0084	2.079
Chromium	52	26.78	26.27	26.85	**26.63**	0.3179	1.194
Chromium	53	26.82	26.28	26.67	**26.59**	0.2784	1.047
Cobalt	59	13.36	13.24	13.27	**13.29**	0.0635	0.4779
Copper	63	18.99	18.81	18.73	**18.84**	0.1312	0.6964
Copper	65	19.3	19.09	19.22	**19.2**	0.1032	0.5376
Lead	206	18.25	17.84	18.33	**18.14**	0.263	1.45
Lead	207	16.82	16.58	16.72	**16.71**	0.1213	0.7258
Lead	208	17.35	17.18	17.39	**17.31**	0.1123	0.6487
Molybdenum	95	1.004	0.9626	1.008	**0.9916**	0.0252	2.544
Molybdenum	97	0.9969	1.003	0.993	**0.9975**	0.0049	0.4923
Molybdenum	98	0.9742	0.9656	0.9825	**0.9741**	0.0084	0.8673
Nickel	60	23.81	23.65	23.79	**23.75**	0.0877	0.3693
Nickel	62	28.34	28.43	28.17	**28.31**	0.1298	0.4585
Selenium	77	4.671	4.302	4.362	**4.445**	0.1977	4.448
Selenium	78	0.4217	0.2823	0.3243	**0.3428**	0.0715	20.87
Selenium	82	1.559	1.76	1.711	**1.677**	0.1049	6.254
Thallium	203	0.451	0.4301	0.425	**0.4353**	0.0138	3.165
Thallium	205	0.4414	0.4242	0.4284	**0.4313**	0.009	2.078
Vanadium	51	60.27	59.61	59.79	**59.89**	0.341	0.5694
Zirconium	90	3.2	3.16	3.212	**3.191**	0.027	0.8447
Zirconium	91	3.254	3.181	3.224	**3.22**	0.0369	1.145
Zirconium	92	2.215	2.18	2.169	**2.188**	0.0241	1.1

Internal Standard Factors:

Lithium	6	1.036	1.031	1.039	**1.036**	n/a	n/a
Rhodium	103	1.205	1.185	1.198	**1.205**	n/a	n/a
Indium	115	1.197	1.198	1.214	**1.197**	n/a	n/a
Lutetium	175	1.19	1.15	1.185	**1.19**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110467-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:42					
Arsenic	75	4.13	4.115	4.06	**4.102**	0.037	0.9024
Cadmium	111	0.32	0.32	0.3187	**0.3196**	0.0007	0.221
Cadmium	114	0.3301	0.355	0.3231	**0.3361**	0.0168	4.984
Chromium	52	21.61	21.64	21.38	**21.54**	0.1387	0.6438
Chromium	53	20.96	21.22	20.93	**21.04**	0.1584	0.7529
Cobalt	59	8.664	8.709	8.683	**8.685**	0.023	0.265
Copper	63	10.86	11.04	10.94	**10.95**	0.0904	0.8258
Copper	65	11.29	11.32	11.3	**11.3**	0.0124	0.1097
Lead	206	12.91	12.97	12.83	**12.9**	0.0721	0.5584
Lead	207	11.96	11.93	11.73	**11.87**	0.1274	1.073
Lead	208	12.39	12.37	12.27	**12.35**	0.0644	0.5216
Molybdenum	95	0.734	0.7242	0.7214	**0.7265**	0.0066	0.911
Molybdenum	97	0.735	0.7123	0.7518	**0.733**	0.0198	2.703
Molybdenum	98	0.729	0.7306	0.7277	**0.7291**	0.0015	0.1995
Nickel	60	15.43	15.47	15.46	**15.45**	0.0168	0.1087
Nickel	62	19.77	19.86	19.72	**19.78**	0.0712	0.36
Selenium	77	3.472	3.441	3.385	**3.433**	0.0442	1.286
Selenium	78	0.0035	-0.0606	-0.0032	**-0.0201**	0.0352	174.9
Selenium	82	1.102	1.075	1.305	**1.161**	0.1258	10.84
Thallium	203	0.3152	0.3246	0.3057	**0.3152**	0.0094	2.993
Thallium	205	0.3082	0.3159	0.3055	**0.3098**	0.0054	1.74
Vanadium	51	47.95	47.43	48.18	**47.85**	0.3819	0.7981
Zirconium	90	2.762	2.787	2.739	**2.762**	0.024	0.8687
Zirconium	91	2.691	2.846	2.762	**2.766**	0.0773	2.796
Zirconium	92	1.831	1.87	1.855	**1.852**	0.0194	1.047

Internal Standard Factors:

Lithium	6	1.027	1.012	0.998	**1.027**	n/a	n/a
Rhodium	103	1.176	1.177	1.184	**1.176**	n/a	n/a
Indium	115	1.196	1.201	1.183	**1.196**	n/a	n/a
Lutetium	175	1.174	1.171	1.174	**1.174**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV3			Mean	SD	%RSD
TimeStamp		12/6/11 10:48					
Arsenic	75	22.62	23.23	23.32	**23.06**	0.3796	1.646
Cadmium	111	23.14	23.62	23.55	**23.44**	0.2575	1.099
Cadmium	114	22.99	23.56	23.56	**23.37**	0.3308	1.416
Chromium	52	23.07	23.66	23.46	**23.4**	0.2986	1.276
Chromium	53	22.5	23.07	22.95	**22.84**	0.3024	1.324
Cobalt	59	23.71	24.2	24.22	**24.04**	0.2879	1.197
Copper	63	23.44	23.92	23.9	**23.75**	0.2714	1.143
Copper	65	23.45	23.89	24.02	**23.79**	0.2979	1.252
Lead	206	23.28	23.48	23.52	**23.43**	0.1313	0.5603
Lead	207	23.52	23.67	23.61	**23.6**	0.078	0.3304
Lead	208	23.33	23.34	23.33	**23.34**	0.0068	0.0291
Molybdenum	95	23.08	23.24	23.86	**23.39**	0.4115	1.759
Molybdenum	97	22.94	23.65	23.74	**23.44**	0.4362	1.861
Molybdenum	98	23.06	23.61	23.78	**23.48**	0.3776	1.608
Nickel	60	23.77	24.05	24.24	**24.02**	0.2322	0.9667
Nickel	62	23.08	24.15	24.33	**23.85**	0.6779	2.842
Selenium	77	22.37	22.73	22.81	**22.64**	0.2355	1.04
Selenium	78	22.11	22.6	22.73	**22.48**	0.3226	1.435
Selenium	82	22.03	22.93	23.19	**22.72**	0.6089	2.68
Thallium	203	23.26	23.27	23.1	**23.21**	0.0943	0.4063
Thallium	205	23.49	23.33	23.29	**23.37**	0.1053	0.4505
Vanadium	51	23.18	23.61	23.51	**23.43**	0.2263	0.9657
Zirconium	90	22.24	23.25	23.27	**22.92**	0.5933	2.589
Zirconium	91	22.42	23.56	23.29	**23.09**	0.5932	2.569
Zirconium	92	22.97	23.48	23.51	**23.32**	0.3034	1.301

Internal Standard Factors:

Lithium	6	1.037	1.02	1.008	**1.037**	n/a	n/a
Rhodium	103	1.033	1.027	1.032	**1.033**	n/a	n/a
Indium	115	1.073	1.054	1.058	**1.073**	n/a	n/a
Lutetium	175	1.106	1.078	1.082	**1.106**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB3			Mean	SD	%RSD
TimeStamp		12/6/11 10:55					
Arsenic	75	0.0636	0.0394	0.0853	**0.0628**	0.023	36.58
Cadmium	111	0.0003	0.0028	0.0009	**0.0013**	0.0013	97.91
Cadmium	114	0.0011	0.0017	0.0035	**0.0021**	0.0013	58.75
Chromium	52	-0.0156	-0.0146	-0.026	**-0.0187**	0.0063	33.89
Chromium	53	-0.8898	-0.879	-0.9022	**-0.8903**	0.0116	1.302
Cobalt	59	0.003	0.006	0.0063	**0.0051**	0.0018	34.97
Copper	63	0.0094	0.0088	0.0136	**0.0106**	0.0026	24.4
Copper	65	0.0031	0.0075	0.0071	**0.0059**	0.0024	40.65
Lead	206	0.0076	0.014	-0.0017	**0.0066**	0.0079	119.1
Lead	207	0.0037	0.0048	0.0062	**0.0049**	0.0012	24.82
Lead	208	0.0061	0.0102	0.0041	**0.0068**	0.0031	45.9
Molybdenum	95	0.0204	0.0186	0.0114	**0.0168**	0.0047	28.23
Molybdenum	97	0.0133	0.0195	0.0114	**0.0147**	0.0042	28.82
Molybdenum	98	0.0192	0.0152	0.0145	**0.0163**	0.0025	15.56
Nickel	60	0.0254	0.0297	0.0387	**0.0313**	0.0068	21.73
Nickel	62	0.0396	0.0193	-0.0051	**0.018**	0.0224	124.5
Selenium	77	-0.1035	-0.0935	-0.2016	**-0.1329**	0.0598	44.98
Selenium	78	-0.657	-0.6722	-0.8069	**-0.712**	0.0825	11.59
Selenium	82	0.1777	0.1126	0.1773	**0.1559**	0.0375	24.06
Thallium	203	0.0064	0.0078	0.0047	**0.0063**	0.0016	24.75
Thallium	205	0.0046	0.0069	0.0038	**0.0051**	0.0016	31.84
Vanadium	51	-0.0192	-0.0175	-0.015	**-0.0172**	0.0021	12.38
Zirconium	90	0.0011	0.0007	0.0004	**0.0007**	0.0004	51.67
Zirconium	91	0.0032	0.0011	0.0052	**0.0032**	0.0021	65.78
Zirconium	92	0.0097	0.0106	0.0089	**0.0097**	0.0009	8.971

Internal Standard Factors:

Lithium	6	1.023	0.991	0.981	**1.023**	n/a	n/a
Rhodium	103	1.068	1.05	1.057	**1.068**	n/a	n/a
Indium	115	1.098	1.075	1.093	**1.098**	n/a	n/a
Lutetium	175	1.106	1.115	1.118	**1.106**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110641-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 11:00					
Arsenic	75	7.799	7.692	7.837	**7.776**	0.0749	0.9635
Cadmium	111	0.3566	0.3514	0.3394	**0.3491**	0.0088	2.528
Cadmium	114	0.3654	0.3744	0.3796	**0.3731**	0.0072	1.934
Chromium	52	30.31	29.95	29.85	**30.04**	0.2449	0.8153
Chromium	53	30.18	29.63	29.92	**29.91**	0.2735	0.9144
Cobalt	59	12.18	11.99	12.08	**12.08**	0.0953	0.789
Copper	63	15.92	15.63	15.81	**15.79**	0.1442	0.9137
Copper	65	16.53	16.19	16.37	**16.37**	0.1682	1.028
Lead	206	24.95	25.21	26.71	**25.62**	0.9492	3.705
Lead	207	23.01	23.72	24.79	**23.84**	0.8952	3.755
Lead	208	23.7	24.26	25.33	**24.43**	0.8285	3.391
Molybdenum	95	1.308	1.252	1.227	**1.262**	0.0412	3.26
Molybdenum	97	1.287	1.278	1.204	**1.256**	0.0458	3.646
Molybdenum	98	1.272	1.26	1.282	**1.272**	0.0111	0.8717
Nickel	60	22.65	22.27	22.51	**22.48**	0.1932	0.8594
Nickel	62	28.39	28.31	28.38	**28.36**	0.0433	0.1528
Selenium	77	3.124	3.168	3.209	**3.167**	0.0425	1.341
Selenium	78	0.32	0.1189	-0.0218	**0.139**	0.1718	123.6
Selenium	82	1.314	1.067	1.206	**1.195**	0.1236	10.34
Thallium	203	0.4678	0.4943	0.4873	**0.4831**	0.0137	2.836
Thallium	205	0.4729	0.4608	0.5041	**0.4792**	0.0223	4.657
Vanadium	51	73.81	73.53	74.05	**73.8**	0.2612	0.354
Zirconium	90	3.321	3.227	3.233	**3.26**	0.0523	1.603
Zirconium	91	3.305	3.208	3.141	**3.218**	0.0824	2.559
Zirconium	92	2.352	2.369	2.317	**2.346**	0.0262	1.118

Internal Standard Factors:

Lithium	6	1.053	1.01	0.989	**1.053**	n/a	n/a
Rhodium	103	1.178	1.16	1.165	**1.178**	n/a	n/a
Indium	115	1.177	1.165	1.162	**1.177**	n/a	n/a
Lutetium	175	1.147	1.158	1.134	**1.147**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110641-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 11:05					
Arsenic	75	19.11	19.03	18.72	**18.96**	0.2031	1.072
Cadmium	111	0.2703	0.2813	0.2724	**0.2747**	0.0059	2.137
Cadmium	114	0.3019	0.2904	0.2807	**0.291**	0.0106	3.653
Chromium	52	76.71	75.67	74.41	**75.6**	1.152	1.524
Chromium	53	69.38	69.15	67.28	**68.6**	1.153	1.681
Cobalt	59	28.37	28.36	27.63	**28.12**	0.4216	1.499
Copper	63	42.53	43.17	41.78	**42.49**	0.699	1.645
Copper	65	43.56	43.62	42.56	**43.25**	0.5946	1.375
Lead	206	27.43	27	26.6	**27.01**	0.4134	1.531
Lead	207	24.71	24.97	24.34	**24.67**	0.3118	1.264
Lead	208	25.64	25.72	25.22	**25.53**	0.2699	1.057
Molybdenum	95	1.297	1.299	1.273	**1.29**	0.0145	1.12
Molybdenum	97	1.338	1.308	1.287	**1.311**	0.0257	1.963
Molybdenum	98	1.3	1.309	1.269	**1.293**	0.0211	1.633
Nickel	60	60.29	60.49	58.7	**59.83**	0.9805	1.639
Nickel	62	65.4	66.31	64.23	**65.31**	1.04	1.592
Selenium	77	6.95	7.198	6.88	**7.009**	0.1667	2.378
Selenium	78	1.036	1.062	0.9422	**1.013**	0.0629	6.208
Selenium	82	2.315	2.478	2.43	**2.407**	0.0834	3.465
Thallium	203	0.7218	0.7201	0.7209	**0.7209**	0.0008	0.1144
Thallium	205	0.6935	0.6984	0.708	**0.7**	0.0074	1.051
Vanadium	51	123.5	124.1	120.5	**122.7**	1.967	1.603
Zirconium	90	4.616	4.6	4.476	**4.564**	0.0763	1.672
Zirconium	91	4.552	4.563	4.51	**4.542**	0.0279	0.6142
Zirconium	92	3.152	3.117	3.093	**3.121**	0.0295	0.9453

Internal Standard Factors:

Lithium	6	1.054	1.03	1.018	**1.054**	n/a	n/a
Rhodium	103	1.155	1.183	1.183	**1.155**	n/a	n/a
Indium	115	1.159	1.144	1.165	**1.159**	n/a	n/a
Lutetium	175	1.082	1.117	1.117	**1.082**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110689-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 11:10					
Arsenic	75	6.146	5.963	6.004	**6.038**	0.0964	1.596
Cadmium	111	0.4262	0.4255	0.4435	**0.4318**	0.0102	2.365
Cadmium	114	0.4221	0.4535	0.4645	**0.4467**	0.022	4.927
Chromium	52	24.19	23.8	23.82	**23.94**	0.2201	0.9194
Chromium	53	23.83	23.32	23.31	**23.48**	0.3005	1.28
Cobalt	59	11.35	11.16	11.28	**11.26**	0.0957	0.8503
Copper	63	16.85	16.51	16.76	**16.71**	0.1718	1.028
Copper	65	17.14	17.14	17.14	**17.14**	0.004	0.0233
Lead	206	49.84	48.78	49.28	**49.3**	0.5313	1.078
Lead	207	46.68	46.44	45.96	**46.36**	0.3629	0.7827
Lead	208	48.15	47.44	47.11	**47.56**	0.5337	1.122
Molybdenum	95	1.363	1.334	1.385	**1.361**	0.0256	1.881
Molybdenum	97	1.39	1.391	1.352	**1.378**	0.0219	1.592
Molybdenum	98	1.351	1.332	1.376	**1.353**	0.0222	1.639
Nickel	60	20.38	20.3	20.23	**20.3**	0.0727	0.3582
Nickel	62	24.82	24.72	24.87	**24.81**	0.0776	0.3128
Selenium	77	4.926	4.939	4.95	**4.938**	0.012	0.2433
Selenium	78	0.5393	0.3282	0.3348	**0.4008**	0.12	29.95
Selenium	82	1.704	1.529	1.28	**1.504**	0.2128	14.15
Thallium	203	0.3788	0.3559	0.3802	**0.3717**	0.0136	3.671
Thallium	205	0.381	0.3778	0.373	**0.3772**	0.004	1.063
Vanadium	51	60.07	59.1	59.53	**59.57**	0.4857	0.8153
Zirconium	90	2.775	2.713	2.653	**2.714**	0.0607	2.235
Zirconium	91	2.773	2.648	2.654	**2.692**	0.0703	2.611
Zirconium	92	2.102	2.094	2.104	**2.1**	0.0053	0.2514

Internal Standard Factors:

Lithium	6	1.021	1.007	1.01	**1.021**	n/a	n/a
Rhodium	103	1.179	1.166	1.184	**1.179**	n/a	n/a
Indium	115	1.165	1.148	1.194	**1.165**	n/a	n/a
Lutetium	175	1.144	1.144	1.141	**1.144**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110689-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 11:15					
Arsenic	75	5.74	5.61	5.545	**5.632**	0.0989	1.756
Cadmium	111	0.3982	0.4422	0.423	**0.4211**	0.022	5.227
Cadmium	114	0.4365	0.423	0.4344	**0.4313**	0.0072	1.679
Chromium	52	23.4	23.22	22.91	**23.18**	0.2516	1.086
Chromium	53	23.26	22.62	22.19	**22.69**	0.5372	2.367
Cobalt	59	10.95	10.86	10.82	**10.87**	0.0685	0.6295
Copper	63	14.59	14.62	14.4	**14.53**	0.1204	0.8282
Copper	65	15.17	15.2	14.92	**15.1**	0.1575	1.043
Lead	206	31.48	31.65	31.84	**31.66**	0.1799	0.5683
Lead	207	29.63	29.46	29.05	**29.38**	0.2967	1.01
Lead	208	30.44	30.11	30.28	**30.28**	0.1652	0.5456
Molybdenum	95	0.8999	0.8943	0.9248	**0.9063**	0.0163	1.794
Molybdenum	97	0.9188	0.9383	0.8808	**0.9126**	0.0292	3.201
Molybdenum	98	0.9048	0.8946	0.9101	**0.9032**	0.0079	0.8757
Nickel	60	18.69	18.67	18.52	**18.63**	0.094	0.5045
Nickel	62	23.51	23.07	23.03	**23.2**	0.2687	1.158
Selenium	77	4.27	4.543	4.568	**4.46**	0.1651	3.702
Selenium	78	0.3056	0.3013	0.4617	**0.3562**	0.0914	25.65
Selenium	82	1.393	1.397	1.37	**1.387**	0.0144	1.038
Thallium	203	0.351	0.3483	0.3424	**0.3472**	0.0044	1.281
Thallium	205	0.3485	0.3441	0.3263	**0.3397**	0.0117	3.456
Vanadium	51	53.74	53.55	52.88	**53.39**	0.4467	0.8367
Zirconium	90	2.603	2.64	2.585	**2.609**	0.0279	1.068
Zirconium	91	2.604	2.584	2.591	**2.593**	0.01	0.3867
Zirconium	92	1.815	1.827	1.802	**1.814**	0.0125	0.6905

Internal Standard Factors:

Lithium	6	1.033	1.012	1.011	**1.033**	n/a	n/a
Rhodium	103	1.181	1.18	1.171	**1.181**	n/a	n/a
Indium	115	1.18	1.193	1.181	**1.18**	n/a	n/a
Lutetium	175	1.138	1.174	1.19	**1.138**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV4			Mean	SD	%RSD
TimeStamp		12/6/11 11:37					
Arsenic	75	23.59	24.09	23.68	**23.78**	0.2669	1.122
Cadmium	111	23.94	23.97	23.89	**23.93**	0.0434	0.1812
Cadmium	114	24.21	23.97	23.89	**24.02**	0.1649	0.6863
Chromium	52	24.18	24.32	24.1	**24.2**	0.1152	0.4761
Chromium	53	23.55	23.9	23.29	**23.58**	0.3041	1.29
Cobalt	59	24.51	24.82	24.56	**24.63**	0.164	0.6657
Copper	63	24.49	24.5	24.53	**24.51**	0.0177	0.072
Copper	65	24.57	24.69	24.5	**24.59**	0.0994	0.4041
Lead	206	23.64	22.81	22.66	**23.04**	0.5283	2.293
Lead	207	24.36	22.78	23.17	**23.44**	0.8258	3.523
Lead	208	23.7	22.78	22.79	**23.09**	0.527	2.282
Molybdenum	95	24	23.63	24.11	**23.91**	0.252	1.054
Molybdenum	97	23.78	24.06	24.2	**24.01**	0.213	0.8872
Molybdenum	98	24.41	24.01	23.8	**24.07**	0.3075	1.278
Nickel	60	24.57	24.82	24.52	**24.64**	0.1596	0.6476
Nickel	62	24.94	24.87	24.63	**24.81**	0.1627	0.6559
Selenium	77	23.78	23.33	23.82	**23.64**	0.2756	1.166
Selenium	78	23.26	23.43	23.2	**23.3**	0.1187	0.5094
Selenium	82	23.54	23.93	23.78	**23.75**	0.1968	0.8286
Thallium	203	23.22	22.93	22.79	**22.98**	0.2192	0.9536
Thallium	205	23.57	22.81	23.23	**23.21**	0.3792	1.634
Vanadium	51	24.08	24.12	24.01	**24.07**	0.0558	0.2317
Zirconium	90	22.59	22.93	22.28	**22.6**	0.3249	1.438
Zirconium	91	23.1	23.12	22.33	**22.85**	0.4519	1.977
Zirconium	92	23.47	23.37	23.62	**23.49**	0.1259	0.536

Internal Standard Factors:

Lithium	6	1.027	1.001	1.002	**1.027**	n/a	n/a
Rhodium	103	1.002	1.01	1.01	**1.002**	n/a	n/a
Indium	115	1.025	1.03	1.035	**1.025**	n/a	n/a
Lutetium	175	1.086	1.027	1.049	**1.086**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB4			Mean	SD	%RSD
TimeStamp		12/6/11 11:45					
Arsenic	75	0.0674	0.037	0.0623	**0.0556**	0.0163	29.24
Cadmium	111	0.0003	0.0021	0.0018	**0.0014**	0.001	71.05
Cadmium	114	0.0014	0.0025	0.0038	**0.0025**	0.0012	46.81
Chromium	52	-0.0403	-0.0621	-0.0587	**-0.0537**	0.0117	21.87
Chromium	53	-0.9159	-0.922	-0.9406	**-0.9262**	0.0129	1.392
Cobalt	59	0.0026	0.0039	0.0067	**0.0044**	0.0021	47.13
Copper	63	0.0048	0.0056	0.0069	**0.0058**	0.0011	18.32
Copper	65	0.0052	0.0069	0.001	**0.0044**	0.003	69.44
Lead	206	0.0074	0.0032	0.0054	**0.0054**	0.0021	39.67
Lead	207	0.0008	0.0033	-0.0049	**-0.0003**	0.0042	1425
Lead	208	0.0041	0.0047	0.0033	**0.004**	0.0007	17.31
Molybdenum	95	0.0288	0.0241	0.0244	**0.0258**	0.0026	10.15
Molybdenum	97	0.0225	0.0165	0.0222	**0.0204**	0.0034	16.76
Molybdenum	98	0.0281	0.0252	0.0226	**0.0253**	0.0028	10.94
Nickel	60	0.0303	0.0262	0.0327	**0.0297**	0.0033	11.16
Nickel	62	0.0153	0.0168	0.0595	**0.0305**	0.0251	82.18
Selenium	77	-0.1529	-0.1267	-0.1944	**-0.158**	0.0341	21.61
Selenium	78	-0.7165	-0.7779	-0.9802	**-0.8249**	0.138	16.73
Selenium	82	0.1449	0.0732	0.11	**0.1093**	0.0359	32.8
Thallium	203	0.0038	0.0064	0.0056	**0.0053**	0.0014	25.69
Thallium	205	0.0034	0.0045	0.0069	**0.0049**	0.0018	36.78
Vanadium	51	-0.0248	-0.0402	-0.0306	**-0.0318**	0.0078	24.43
Zirconium	90	0.0033	-0.0004	-0.0002	**0.0009**	0.0021	232.4
Zirconium	91	-0.0027	0.0028	0	**0**	0.0027	38890
Zirconium	92	0.0146	0.0115	0.0108	**0.0123**	0.002	16.64

Internal Standard Factors:

Lithium	6	1.027	0.986	0.967	**1.027**	n/a	n/a
Rhodium	103	1.063	1.036	1.045	**1.063**	n/a	n/a
Indium	115	1.088	1.063	1.083	**1.088**	n/a	n/a
Lutetium	175	1.125	1.112	1.114	**1.125**	n/a	n/a

Service Request # K1110227 (HNO3 V & Co)___
Calibration _____120611AVCo_____
QC in calibration__12061AVCo_____
QC Service Request K1110524_____
STARLIMS Batch # 272002_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL			X
13. CRA run	X		
14. ICSA and ICSAB in control	X		
15. Serial dilution run	X		
16. Post spike in control	X		
17. Was the run terminated? If so, why.	X		

Comments:

Primary Review by _____ Date 12/12/11
Secondary Review by _____ Date _____
R:\icp\misc\data review forms\PQ ExCell review form

Sample List

Num	Label	Type	Weight	Volume	Dilution	Rack	Row	Column	Height
1	Cal. Blk	Blank	0 kg	0 ml	1.00	0	1	1	145
2	Cal. Stn	Fully Quant Standard	0 kg	0 ml	1.00	0	1	2	145
3	ICV1	Unknown	0 kg	0 ml	1.00	0	1	3	145
4	CCV1	Unknown	0 kg	0 ml	1.00	0	1	2	145
5	ICB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
6	CCB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
7	LLICV	Unknown	0 kg	0 ml	1.00	0	1	4	145
8	ICSA	Unknown	0 kg	0 ml	1.00	0	1	5	145
9	ICSAB	Unknown	0 kg	0 ml	1.00	0	1	6	145
10	K1110524-MB 1/5	Unknown	0 kg	0 ml	1.00	1	1	1	145
11	LLLCSW 1/5	Unknown	0 kg	0 ml	1.00	1	1	2	145
12	LCSW 1/100	Unknown	0 kg	0 ml	1.00	1	1	3	145
13	DLCSW 1/100	Unknown	0 kg	0 ml	1.00	1	1	4	145
14	K1110524-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	5	145
15	K1110524-001L 1/25	Unknown	0 kg	0 ml	1.00	1	1	6	145
16	K1110524-001A 1/5,	Unknown	0 kg	0 ml	1.00	1	1	7	145
17	K1110524-001A 1/5,	Unknown	0 kg	0 ml	1.00	1	1	5	145
18	K1110524-001S 1/5	Unknown	0 kg	0 ml	1.00	1	1	8	145
19	K1110524-001SD 1/5	Unknown	0 kg	0 ml	1.00	1	1	9	145
20	CCV2	Unknown	0 kg	0 ml	1.00	0	1	2	145
21	CCB2	Unknown	0 kg	0 ml	1.00	0	1	1	145
22	K1110524-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	10	145
23	K1110169-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	11	145
24	K1110169-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	12	145
25	K1110169-003 1/5	Unknown	0 kg	0 ml	1.00	1	2	1	145
26	K1110169-004 1/5	Unknown	0 kg	0 ml	1.00	1	2	2	145
27	K1110227-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	3	145
28	K1110363-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	4	145
29	K1110363-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	5	145
30	K1110467-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	6	145
31	CCV3	Unknown	0 kg	0 ml	1.00	0	1	2	145
32	CCB3	Unknown	0 kg	0 ml	1.00	0	1	1	145
33	K1110641-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	7	145
34	K1110641-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	8	145
35	K1110689-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	9	145
36	K1110689-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	10	145
37	CCV4	Unknown	0 kg	0 ml	1.00	0	1	2	145
38	CCB4	Unknown	0 kg	0 ml	1.00	0	1	1	145

Instrument Setup - Configurations

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 6:40:16 12/6/11
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-380.00
Lens1	10.00
Lens2	-85.00
Lens3	-200.00
Pole Bias	2.00
Sampling Depth	370.00
Horizontal	-20.00
Vertical	100.00
Cool	13.00
Auxiliary	0.60
Nebuliser	0.84
Forward power	1,350.00
HT1 Voltage	1,900.00
HT2 Voltage	2,600.00
D1	-34.00
Focus	24.00

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 6:40:16 12/6/11
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-380.00
Lens1	10.00
Lens2	-85.00
Lens3	-200.00
Pole Bias	2.00
Sampling Depth	370.00
Horizontal	-20.00
Vertical	100.00
Cool	13.00
Auxiliary	0.60

ExCell Mass Calibration

Date: 12/6/2011

Mass	Mass DAC	Peak Width (AMU)	Error (AMU)	Include	Masses in Tune Solution
6.015	1291	0.766	0.018	TRUE	
7.016	1551	0.766	-0.004	TRUE	Li-7
9.012	2058	0.766	0	TRUE	Be-9
23.985	5871	0.715	-0.015	TRUE	Mg-24
24.986	6124	0.766	-0.009	TRUE	Co-59
25.983	6378	0.715	-0.01	TRUE	In-115
26.982	6631	0.766	-0.006	TRUE	Ce-140
43.956	10954	0.766	-0.02	TRUE	Pb-208
45.953	11468	0.817	-0.042	TRUE	Bi-209
50.944	12722	0.766	0.022	TRUE	U-238
51.94	12982	0.766	-0.003	TRUE	
52.941	13236	0.817	-0.001	TRUE	
53.949	13489	0.766	0.014	TRUE	
55.935	13970	0.664	0.11	FALSE	
56.935	14256	0.766	-0.014	TRUE	
57.934	14503	0.766	0.015	TRUE	
58.933	14757	0.817	0.016	TRUE	
59.931	15010	0.766	0.02	TRUE	
62.93	15771	0.817	0.029	TRUE	
63.929	16031	0.817	0.006	TRUE	
69.925	17565	0.817	-0.023	TRUE	
75.92	19079	0.766	0.025	TRUE	
77.919	19593	0.817	0.005	TRUE	
112.904	28499	0.817	0.018	TRUE	
114.904	29012	0.766	0.004	TRUE	
118.903	30065	0.765	-0.13	FALSE	
139.905	35389	0.714	-0.026	TRUE	
141.908	35896	0.714	-0.012	TRUE	
155.923	39464	0.765	0.001	TRUE	
157.924	39978	0.714	-0.015	TRUE	
205.974	52224	0.714	-0.001	TRUE	
206.976	52484	0.714	-0.019	TRUE	
207.977	52731	0.714	0.013	TRUE	
208.98	52991	0.714	-0.003	TRUE	
238.051	60401	0.714	0.017	TRUE	

Excluded In Calib | Excluded In Results | Cal Pnt Excluded | Multi Element | Serial Dilute | Internal Standard | Standard Addition

Uncorrected ICPS Per Mass

S-Calibration Has Edited Standard E-Calibration Edited I-Invalid Calibration V-Valley Integration Failed
F-Interference Correction Failed T-Tripped P-Pulse Counting M-Result Over Max

Run	Label	TimeStamp	6Li	7Li	9Be	59Co	115In	208Pb
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)0.333	(P)56363.153	(P)11783.525	(P)60490.974	(P)54994.820	(P)21465.792
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)0.333	(P)55020.094	(P)11158.857	(P)58622.209	(P)55726.313	(P)22068.381
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)0.000	(P)53288.050	(P)10962.205	(P)58966.617	(P)55601.999	(P)21944.346
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)0.167	(P)52462.994	(P)10998.065	(P)59805.934	(P)53777.029	(P)21270.667
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)0.000	(P)52175.113	(P)10832.940	(P)59964.104	(P)54806.265	(P)21425.057
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)0.167	(P)53861.881	(P)11147.118	(P)59569.968	(P)54981.285	(P)21634.848
	SD of Stability 12-06-20		(P)0.167	(P)1783.898	(P)374.256	(P)761.832	(P)778.043	(P)349.628
	%RSD of Stability 12		(P)100.000	(P)3.312	(P)3.357	(P)1.279	(P)1.415	(P)1.616

Run	Label	TimeStamp	209Bi	232Th	238U
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)32808.472	(P)0.167	(P)32138.617
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)33293.776	(P)0.000	(P)33658.779
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)33102.988	(P)0.000	(P)33508.254
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)31430.709	(P)0.000	(P)32767.209
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)31919.959	(P)0.000	(P)32461.510
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)32511.181	(P)0.033	(P)32906.874
	SD of Stability 12-06-20		(P)801.255	(P)0.075	(P)658.615
	%RSD of Stability 12		(P)2.465	(P)223.607	(P)2.001

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		Cal. Blk			Mean	SD	%RSD
TimeStamp		12/6/11 7:54					
Cobalt	59	0	0.0005	-0.0005	**0**	0.0005	0
Vanadium	51	0.0061	-0.0101	0.004	**0**	0.0088	0

Internal Standard Factors:

Scandium	45	0.992	0.996	1.012	**0.992**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		Cal. Stn			Mean	SD	%RSD
TimeStamp		12/6/11 7:58					
Cobalt	59	25.13	24.95	24.91	**25**	0.118	0.4721
Vanadium	51	25.1	24.84	25.07	**25**	0.1435	0.574

Internal Standard Factors:

Scandium	45	1.011	1.007	1.015	**1.011**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICV1			Mean	SD	%RSD
TimeStamp		12/6/11 8:02					
Cobalt	59	25.82	25.63	25.48	**25.64**	0.1724	0.6721
Vanadium	51	26.04	25.81	25.83	**25.89**	0.1232	0.4757

Internal Standard Factors:							
Scandium	45	1.059	1.061	1.055	**1.059**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV1			Mean	SD	%RSD
TimeStamp		12/6/11 8:07					
Cobalt	59	24.67	24.95	24.71	**24.78**	0.1497	0.6041
Vanadium	51	24.7	24.77	24.49	**24.65**	0.1422	0.5767

Internal Standard Factors:							
Scandium	45	1.027	1.031	1.03	**1.027**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICB1			Mean	SD	%RSD
TimeStamp		12/6/11 8:14					
Cobalt	59	-0.0002	0.0057	0.0067	**0.0041**	0.0037	92.5
Vanadium	51	-0.0154	0.0195	-0.0232	**-0.0063**	0.0227	358.5

Internal Standard Factors:

Scandium	45	0.977	1.076	0.978	**0.977**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB1			Mean	SD	%RSD
TimeStamp		12/6/11 8:18					
Cobalt	59	0.0016	0.0019	0.0023	**0.0019**	0.0003	17.53
Vanadium	51	-0.0089	-0.0114	-0.0069	**-0.0091**	0.0023	25.15

Internal Standard Factors:							
Scandium	45	0.993	0.984	0.988	**0.993**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LLICV			Mean	SD	%RSD
TimeStamp		12/6/11 8:27					
Cobalt	59	0.0505	0.0478	0.0487	**0.049**	0.0014	2.846
Vanadium	51	0.3463	0.3314	0.3199	**0.3325**	0.0132	3.975

Internal Standard Factors:

Scandium	45	0.98	0.967	0.962	**0.98**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICSA			Mean	SD	%RSD
TimeStamp		12/6/11 8:32					
Cobalt	59	0.7265	0.7147	0.7287	**0.7233**	0.0075	1.04
Vanadium	51	-0.1543	-0.0688	-0.0916	**-0.1049**	0.0443	42.22

Internal Standard Factors:							
Scandium	45	1.158	1.166	1.201	**1.158** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICSAB			Mean	SD	%RSD
TimeStamp		12/6/11 8:36					
Cobalt	59	52.72	52.9	53.04	**52.89**	0.1573	0.2975
Vanadium	51	54.97	54.83	54.59	**54.8**	0.1949	0.3556

Internal Standard Factors:							
Scandium	45	1.197	1.209	1.221	**1.197**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-MB 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 8:45					
Cobalt	59	0.0185	0.0201	0.0214	**0.02**	0.0015	7.344
Vanadium	51	-0.0145	-0.0028	-0.0104	**-0.0093**	0.0059	64.24

Internal Standard Factors:

Scandium	45	1.059	1.044	1.037	**1.059**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LLLCSW 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 8:54					
Cobalt	59	0.0541	0.0527	0.0527	**0.0532**	0.0008	1.534
Vanadium	51	0.3463	0.3458	0.3461	**0.3461**	0.0003	0.0815

Internal Standard Factors:							
Scandium	45	1.017	0.999	1.001	**1.017**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LCSW 1/100			Mean	SD	%RSD
TimeStamp		12/6/11 8:59					
Cobalt	59	23.44	23.28	23.22	**23.32**	0.1158	0.4968
Vanadium	51	23.09	22.85	23.59	**23.18**	0.3778	1.63

Internal Standard Factors:							
Scandium	45	1.001	0.996	1	**1.001**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		DLCSW 1/100			Mean	SD	%RSD
TimeStamp		12/6/11 9:06					
Cobalt	59	23.24	23.28	22.99	**23.17**	0.1589	0.6858
Vanadium	51	22.9	22.86	22.84	**22.87**	0.0332	0.1451

Internal Standard Factors:							
Scandium	45	0.99	0.989	0.979	**0.99**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 9:15					
Cobalt	59	12.26	11.94	11.57	**11.92**	0.3436	2.881
Vanadium	51	63.83	61.46	59.38	**61.56**	2.223	3.611

Internal Standard Factors:							
Scandium	45	0.885	0.893	0.914	**0.885**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001L 1/25			Mean	SD	%RSD
TimeStamp		12/6/11 9:21					
Cobalt	59	2.504	2.506	2.495	**2.502**	0.0055	0.2214
Vanadium	51	11.53	11.86	11.57	**11.65**	0.1831	1.571

Internal Standard Factors:							
Scandium	45	0.978	0.987	0.985	**0.978**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001A 1/5, +50 ppb			Mean	SD	%RSD
TimeStamp		12/6/11 9:26					
Cobalt	59	55.46	55.84	55.98	**55.76**	0.2696	0.4834
Vanadium	51	98.56	99.72	99.26	**99.18**	0.5848	0.5896

Internal Standard Factors:							
Scandium	45	0.915	0.922	0.93	**0.915**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001A 1/5, +50 ppb Zr			Mean	SD	%RSD
TimeStamp		12/6/11 9:38					
Cobalt	59	10.16	10.27	10.17	**10.2**	0.0587	0.5751
Vanadium	51	53.23	53.08	52.88	**53.07**	0.175	0.3297

Internal Standard Factors:							
Scandium	45	0.889	0.907	0.907	**0.889**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001S 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 9:43					
Cobalt	59	88.32	88.66	89.49	**88.82**	0.6025	0.6783
Vanadium	51	154.1	153.7	150.9	**152.9**	1.734	1.134

Internal Standard Factors:

Scandium	45	0.883	0.894	0.904	**0.883**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-001SD 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 9:47					
Cobalt	59	92.66	92.21	93.17	**92.68**	0.4816	0.5196
Vanadium	51	154.8	155.4	158.1	**156.1**	1.741	1.115

Internal Standard Factors:							
Scandium	45	0.916	0.92	0.938	**0.916**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV2			Mean	SD	%RSD
TimeStamp		12/6/11 9:52					
Cobalt	59	22.81	23.02	23.15	**22.99**	0.1736	0.7548
Vanadium	51	22.41	22.44	22.72	**22.52**	0.1746	0.7752

Internal Standard Factors:							
Scandium	45	0.991	0.984	0.985	**0.991**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB2			Mean	SD	%RSD
TimeStamp		12/6/11 10:02					
Cobalt	59	0.0026	0.0107	0.0123	**0.0085**	0.0052	61.2
Vanadium	51	-0.0352	-0.0174	-0.0289	**-0.0272**	0.009	33.3

Internal Standard Factors:							
Scandium	45	0.982	0.958	0.955	**0.982**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:07					
Cobalt	59	18.83	18.71	18.42	**18.66**	0.2115	1.134
Vanadium	51	78.92	78.69	76.85	**78.15**	1.135	1.452

Internal Standard Factors:							
Scandium	45	0.869	0.878	0.883	**0.869**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:11					
Cobalt	59	8.861	8.759	8.805	**8.808**	0.0515	0.5848
Vanadium	51	48.98	48.96	48.77	**48.9**	0.1149	0.2349

Internal Standard Factors:

Scandium	45	0.957	0.955	0.958	**0.957**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:16					
Cobalt	59	13.81	14.15	14.06	**14**	0.1733	1.238
Vanadium	51	71.15	71.22	71.76	**71.38**	0.3326	0.466

Internal Standard Factors:

Scandium	45	0.92	0.938	0.941	**0.92** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-003 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:20					
Cobalt	59	9.873	8.85	9.077	**9.267**	0.5372	5.797
Vanadium	51	49.08	44.32	44.86	**46.09**	2.608	5.659

Internal Standard Factors:							
Scandium	45	1.025	0.967	0.979	**1.025**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name: / TimeStamp		K1110169-004 1/5 12/6/11 10:25			Mean	SD	%RSD
Cobalt	59	37.14	37.79	37.69	**37.54**	0.3491	0.9299
Vanadium	51	75.32	76.06	76.34	**75.91**	0.5267	0.6939

Internal Standard Factors:

Scandium	45	0.844	0.859	0.869	**0.844**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110227-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:29					
Cobalt	59	20.75	20.64	20.53	**20.64**	0.1093	0.5294
Vanadium	51	92.88	93.56	92.93	**93.13**	0.3785	0.4064

Internal Standard Factors:							
Scandium	45	0.844	0.854	0.856	**0.844**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110363-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:33					
Cobalt	59	16.87	17.06	16.98	**16.97**	0.0967	0.5696
Vanadium	51	65.79	65.74	66.29	**65.94**	0.305	0.4626

Internal Standard Factors:

Scandium	45	0.968	0.972	0.968	**0.968**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110363-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:38					
Cobalt	59	10.72	10.79	10.72	**10.74**	0.0422	0.3926
Vanadium	51	48.28	48.54	48.22	**48.35**	0.1686	0.3488

Internal Standard Factors:							
Scandium	45	0.987	0.987	0.988	**0.987**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110467-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 10:42					
Cobalt	59	7.155	7.196	7.142	**7.164**	0.0278	0.3884
Vanadium	51	39.55	39.13	39.57	**39.42**	0.2462	0.6245

Internal Standard Factors:							
Scandium	45	0.993	0.993	0.995	**0.993**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV3			Mean	SD	%RSD
TimeStamp		12/6/11 10:48					
Cobalt	59	22.7	23.19	22.99	**22.96**	0.2453	1.068
Vanadium	51	22.18	22.61	22.31	**22.37**	0.2213	0.9895

Internal Standard Factors:							
Scandium	45	1.01	1.005	1.001	**1.01** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB3			Mean	SD	%RSD
TimeStamp		12/6/11 10:55					
Cobalt	59	0.0024	0.0052	0.0053	**0.0043**	0.0016	38.1
Vanadium	51	-0.0383	-0.0338	-0.0355	**-0.0358**	0.0022	6.268

Internal Standard Factors:

Scandium	45	0.995	0.989	0.981	**0.995**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name: / TimeStamp		K1110641-001 1/5 12/6/11 11:00			Mean	SD	%RSD
Cobalt	59	9.579	9.549	9.464	**9.531**	0.0598	0.6271
Vanadium	51	57.99	58.51	57.95	**58.15**	0.3121	0.5368

Internal Standard Factors:

Scandium	45	0.946	0.943	0.932	**0.946**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110641-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 11:05					
Cobalt	59	20.53	20.31	20.06	**20.3**	0.2357	1.161
Vanadium	51	89.29	88.8	87.36	**88.48**	1.005	1.135

Internal Standard Factors:

Scandium	45	0.854	0.865	0.878	**0.854**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110689-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 11:10					
Cobalt	59	9.075	9.081	9.092	**9.083**	0.0087	0.0955
Vanadium	51	47.98	48.04	47.94	**47.99**	0.0529	0.1103

Internal Standard Factors:

Scandium	45	0.963	0.97	0.975	**0.963**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110689-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 11:15					
Cobalt	59	8.822	8.718	8.88	**8.807**	0.0823	0.9345
Vanadium	51	43.23	42.93	43.36	**43.17**	0.2218	0.5137

Internal Standard Factors:

Scandium	45	0.972	0.968	0.982	**0.972**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV4			Mean	SD	%RSD
TimeStamp		12/6/11 11:37					
Cobalt	59	23.43	23.52	23.42	**23.45**	0.0546	0.2326
Vanadium	51	23	22.84	22.88	**22.91**	0.0793	0.3461

Internal Standard Factors:							
Scandium	45	0.978	0.977	0.983	**0.978**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB4			Mean	SD	%RSD
TimeStamp		12/6/11 11:45					
Cobalt	59	0.002	0.0033	0.0058	**0.0037**	0.0019	52.41
Vanadium	51	-0.0451	-0.0544	-0.0474	**-0.0489**	0.0048	9.86

Internal Standard Factors:

Scandium	45	0.984	0.977	0.978	**0.984**	n/a	n/a

Service Request # K1110227 (HCl)_____
Calibration _____120611A + 120611B_____
QC in calibration__12061A_____
QC Service Request K1110524_____
STARLIMS Batch # 272002_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL			X
13. CRA run	X		
14. ICSA and ICSAB in control	X		
15. Serial dilution run	X		
16. Post spike in control	X		
17. Was the run terminated? If so, why.	X		

Comments: Report Ag-109.

Primary Review by _____ Date 12/6/11
Secondary Review by JDB Date 12/7/11
R:\icp\misc\data review forms\PQ ExCell review form

Sample List

Num	Label	Type	Weight	Volume	Dilution	Rack	Row	Column	Height
1	Cal. Blk	Blank	0 kg	0 ml	1.00	0	1	1	145
2	Cal. Stn	Fully Quant Standard	0 kg	0 ml	1.00	0	1	2	145
3	ICV1	Unknown	0 kg	0 ml	1.00	0	1	3	145
4	CCV1	Unknown	0 kg	0 ml	1.00	0	1	2	145
5	ICB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
6	CCB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
7	LLICV	Unknown	0 kg	0 ml	1.00	0	1	4	145
8	ICSA	Unknown	0 kg	0 ml	1.00	0	1	5	145
9	ICSAB	Unknown	0 kg	0 ml	1.00	0	1	6	145
10	K1110524-MB 1/5	Unknown	0 kg	0 ml	1.00	1	1	1	145
11	LLLCSW 1/5	Unknown	0 kg	0 ml	1.00	1	1	2	145
12	LCSW 1/100	Unknown	0 kg	0 ml	1.00	1	1	3	145
13	DLCSW 1/100	Unknown	0 kg	0 ml	1.00	1	1	4	145
14	K1110524-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	5	145
15	K1110524-001L 1/25	Unknown	0 kg	0 ml	1.00	1	1	6	145
16	K1110524-001A 1/5, +10/50 ppb	Unknown	0 kg	0 ml	1.00	1	1	7	145
17	K1110524-001S 1/5	Unknown	0 kg	0 ml	1.00	1	1	8	145
18	K1110524-001SD 1/5	Unknown	0 kg	0 ml	1.00	1	1	9	145
19	K1110524-001A 1/5, +10/50 ppb	Unknown	0 kg	0 ml	1.00	1	1	7	145
20	CCV2	Unknown	0 kg	0 ml	1.00	0	1	2	145
21	CCB2	Unknown	0 kg	0 ml	1.00	0	1	1	145

Instrument Setup - Configurations

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 6:40:16 12/6/11
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-380.00
Lens1	10.00
Lens2	-85.00
Lens3	-200.00
Pole Bias	2.00
Sampling Depth	370.00
Horizontal	-20.00
Vertical	100.00
Cool	13.00
Auxiliary	0.60
Nebuliser	0.84
Forward power	1,350.00
HT1 Voltage	1,900.00
HT2 Voltage	2,600.00
D1	-34.00
Focus	24.00

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 6:40:16 12/6/11
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-380.00
Lens1	10.00
Lens2	-85.00
Lens3	-200.00
Pole Bias	2.00
Sampling Depth	370.00
Horizontal	-20.00
Vertical	100.00
Cool	13.00
Auxiliary	0.60

ExCell Mass Calibration

Date: 12/6/2011

Mass	Mass DAC	Peak Width (AMU)	Error (AMU)	Include	Masses in Tune Solution
6.015	1291	0.766	0.018	TRUE	
7.016	1551	0.766	-0.004	TRUE	Li-7
9.012	2058	0.766	0	TRUE	Be-9
23.985	5871	0.715	-0.015	TRUE	Mg-24
24.986	6124	0.766	-0.009	TRUE	Co-59
25.983	6378	0.715	-0.01	TRUE	In-115
26.982	6631	0.766	-0.006	TRUE	Ce-140
43.956	10954	0.766	-0.02	TRUE	Pb-208
45.953	11468	0.817	-0.042	TRUE	Bi-209
50.944	12722	0.766	0.022	TRUE	U-238
51.94	12982	0.766	-0.003	TRUE	
52.941	13236	0.817	-0.001	TRUE	
53.949	13489	0.766	0.014	TRUE	
55.935	13970	0.664	0.11	FALSE	
56.935	14256	0.766	-0.014	TRUE	
57.934	14503	0.766	0.015	TRUE	
58.933	14757	0.817	0.016	TRUE	
59.931	15010	0.766	0.02	TRUE	
62.93	15771	0.817	0.029	TRUE	
63.929	16031	0.817	0.006	TRUE	
69.925	17565	0.817	-0.023	TRUE	
75.92	19079	0.766	0.025	TRUE	
77.919	19593	0.817	0.005	TRUE	
112.904	28499	0.817	0.018	TRUE	
114.904	29012	0.766	0.004	TRUE	
118.903	30065	0.765	-0.13	FALSE	
139.905	35389	0.714	-0.026	TRUE	
141.908	35896	0.714	-0.012	TRUE	
155.923	39464	0.765	0.001	TRUE	
157.924	39978	0.714	-0.015	TRUE	
205.974	52224	0.714	-0.001	TRUE	
206.976	52484	0.714	-0.019	TRUE	
207.977	52731	0.714	0.013	TRUE	
208.98	52991	0.714	-0.003	TRUE	
238.051	60401	0.714	0.017	TRUE	

SHORT TERM STABILITY 12-06-11.vge

Excluded In Calib | Excluded In Results | Cal Line Excluded | Multi Element | Semi Quant | Internal Standard | Standard Addition

Uncorrected ICPS Per Mass

S-Calibration Has Edited Standard
F-Interference Correction Failed
E-Calibration Edited
T-Tripped
I-Invalid Calibration
P-Pulse Counting
V-Valley Integration Failed
M-Result Over Max

Run	Label	TimeStamp	59Ag	7Li	9Be	59Co	115In	208Pb
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)0.333	(P)56363.153	(P)11783.525	(P)60490.974	(P)54994.820	(P)21465.792
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)0.333	(P)55020.094	(P)11158.857	(P)58622.209	(P)55726.313	(P)22068.381
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)0.000	(P)53288.050	(P)10962.205	(P)58966.617	(P)55601.999	(P)21944.346
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)0.167	(P)52462.994	(P)10998.065	(P)59805.934	(P)53777.029	(P)21270.667
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)0.000	(P)52175.113	(P)10832.940	(P)59964.104	(P)54806.265	(P)21425.057
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)0.167	(P)53861.881	(P)11147.118	(P)59569.968	(P)54981.285	(P)21634.848
	SD of Stability 12-06-20		(P)0.167	(P)1783.898	(P)374.256	(P)761.832	(P)778.043	(P)349.628
	%RSD of Stability 12		(P)100.000	(P)3.312	(P)3.357	(P)1.279	(P)1.415	(P)1.616

Run	Label	TimeStamp	209Bi	232Th	238U
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)32808.472	(P)0.167	(P)32138.617
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)33293.776	(P)0.000	(P)33658.779
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)33102.988	(P)0.000	(P)33508.254
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)31430.709	(P)0.000	(P)32767.209
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)31919.959	(P)0.000	(P)32461.510
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)32511.181	(P)0.033	(P)32906.874
	SD of Stability 12-06-20		(P)801.255	(P)0.075	(P)658.615
	%RSD of Stability 12		(P)2.465	(P)223.607	(P)2.001

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		Cal. Blk			Mean	SD	%RSD
TimeStamp		12/6/11 12:32					
Antimony	121	-0.0047	0.0015	0.0032	**0**	0.0042	0
Antimony	123	-0.0003	-0.0073	0.0076	**0**	0.0075	0
Silver	107	-0.0008	-0.0013	0.002	**0**	0.0018	0
Silver	109	-0.001	0.0003	0.0007	**0**	0.0009	0

Internal Standard Factors:

Rhodium	103	1	1.011	0.989	**1**	n/a	n/a
Indium	115	1.002	0.996	1.002	**1.002**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		Cal. Stn			Mean	SD	%RSD
TimeStamp		12/6/11 12:34					
Antimony	121	24.89	24.93	25.18	**25**	0.1542	0.6169
Antimony	123	24.73	25.54	24.73	**25**	0.4683	1.873
Silver	107	25.01	25.05	24.94	**25**	0.0578	0.2311
Silver	109	24.76	25.14	25.1	**25**	0.2095	0.8381

Internal Standard Factors:

Rhodium	103	0.983	0.981	0.971	**0.983**	n/a	n/a
Indium	115	0.969	0.976	0.98	**0.969**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		ICV1			Mean	SD	%RSD
TimeStamp		12/6/11 12:36					
Antimony	121	26.09	25.33	25.03	**25.48**	0.5461	2.143
Antimony	123	26.63	26.09	25.8	**26.17**	0.42	1.605
Silver	107	13.02	13.05	13	**13.03**	0.0242	0.1854
Silver	109	12.9	12.89	12.92	**12.9**	0.0134	0.1035

Internal Standard Factors:

Rhodium	103	1.001	1.005	1.001	**1.001**	n/a	n/a
Indium	115	1	0.991	0.981	**1**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		CCV1			Mean	SD	%RSD
TimeStamp		12/6/11 12:39					
Antimony	121	24.29	24.75	24.65	**24.56**	0.2401	0.9776
Antimony	123	25.1	24.72	25.06	**24.96**	0.2081	0.8338
Silver	107	25.1	24.93	24.92	**24.98**	0.1045	0.4184
Silver	109	24.96	24.78	24.92	**24.88**	0.0959	0.3854

Internal Standard Factors:

Rhodium	103	0.997	0.996	0.99	**0.997**	n/a	n/a
Indium	115	1.004	0.99	0.989	**1.004**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		ICB1			Mean	SD	%RSD
TimeStamp		12/6/11 12:43					
Antimony	121	-0.0422	-0.026	-0.018	**-0.0287**	0.0123	42.83
Antimony	123	-0.0174	-0.0377	-0.034	**-0.0297**	0.0108	36.33
Silver	107	0.0012	0.0029	0.0003	**0.0015**	0.0013	92.3
Silver	109	0.0014	-0.0008	0.0043	**0.0016**	0.0026	157.3

Internal Standard Factors:

Rhodium	103	1.007	1.004	1.012	**1.007**	n/a	n/a
Indium	115	1.003	1.02	1.015	**1.003**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		CCB1			Mean	SD	%RSD
TimeStamp		12/6/11 12:45					
Antimony	121	-0.0167	-0.0028	-0.0232	**-0.0142**	0.0104	73.43
Antimony	123	-0.0245	-0.0305	-0.0215	**-0.0255**	0.0046	17.92
Silver	107	-0.0011	-0.0002	-0.0002	**-0.0005**	0.0005	106.1
Silver	109	0.0002	0.0013	-0.0015	**0**	0.0014	43410

Internal Standard Factors:

Rhodium	103	1.009	1.006	1.007	**1.009**	n/a	n/a
Indium	115	1.001	0.985	1.006	**1.001**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		LLICV			Mean	SD	%RSD
TimeStamp		12/6/11 12:47					
Antimony	121	0.0991	0.1113	0.1024	**0.1043**	0.0063	6.047
Antimony	123	0.1018	0.1054	0.1303	**0.1125**	0.0156	13.82
Silver	107	0.0495	0.0522	0.0517	**0.0512**	0.0014	2.766
Silver	109	0.0454	0.0466	0.0479	**0.0466**	0.0012	2.646

Internal Standard Factors:

Rhodium	103	1.007	0.996	1.015	**1.007**	n/a	n/a
Indium	115	0.989	1.002	1.004	**0.989**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		ICSA			Mean	SD	%RSD
TimeStamp		12/6/11 12:49					
Antimony	121	0.1973	0.1546	0.1659	**0.1726**	0.0221	12.82
Antimony	123	0.1732	0.179	0.1795	**0.1772**	0.0035	1.981
Silver	107	0.0387	0.0357	0.0371	**0.0372**	0.0015	4.037
Silver	109	0.0329	0.0321	0.0344	**0.0331**	0.0012	3.517

Internal Standard Factors:

Rhodium	103	1.294	1.292	1.282	**1.294**	n/a	n/a
Indium	115	1.242	1.225	1.216	**1.242**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		ICSAB			Mean	SD	%RSD
TimeStamp		12/6/11 12:52					
Antimony	121	0.705	0.6463	0.6373	**0.6629**	0.0368	5.546
Antimony	123	0.6808	0.612	0.6377	**0.6435**	0.0347	5.397
Silver	107	12	12.14	12.22	**12.12**	0.1126	0.9291
Silver	109	11.92	12.04	12.07	**12.01**	0.0797	0.6633

Internal Standard Factors:

Rhodium	103	1.305	1.297	1.293	**1.305**	n/a	n/a
Indium	115	1.225	1.207	1.225	**1.225**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		K1110524-MB 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 12:59					
Antimony	121	0.0179	0.0112	0.0181	**0.0157**	0.0039	25.06
Antimony	123	0.0375	0.0204	0.0198	**0.0259**	0.0101	38.99
Silver	107	0.0015	-0.0018	-0.003	**-0.0011**	0.0023	214.4
Silver	109	0.0016	-0.0012	-0.0001	**0.0001**	0.0014	1136

Internal Standard Factors:

Rhodium	103	1.061	1.049	1.041	**1.061**	n/a	n/a
Indium	115	1.041	1.03	1.041	**1.041**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		LLLCSW 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 13:01					
Antimony	121	0.1295	0.106	0.1079	**0.1145**	0.013	11.38
Antimony	123	0.1301	0.1221	0.113	**0.1217**	0.0085	7.021
Silver	107	0.0353	0.0364	0.0395	**0.0371**	0.0021	5.779
Silver	109	0.0351	0.0335	0.0336	**0.0341**	0.0009	2.743

Internal Standard Factors:

Rhodium	103	1.04	1.043	1.035	**1.04**	n/a	n/a
Indium	115	1.015	1.013	1.025	**1.015**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		LCSW 1/100			Mean	SD	%RSD
TimeStamp		12/6/11 13:03					
Antimony	121	50.68	49.73	49.57	**49.99**	0.6031	1.206
Antimony	123	50.8	51.06	50.08	**50.64**	0.5057	0.9984
Silver	107	12.17	12.16	12.13	**12.16**	0.0203	0.1666
Silver	109	12.17	12.24	12.07	**12.16**	0.0875	0.7194

Internal Standard Factors:

Rhodium	103	0.969	0.972	0.966	**0.969**	n/a	n/a
Indium	115	0.955	0.955	0.949	**0.955**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		DLCSW 1/100			Mean	SD	%RSD
TimeStamp		12/6/11 13:06					
Antimony	121	52.33	52.6	52.24	**52.39**	0.1901	0.3629
Antimony	123	54.44	55.67	54.83	**54.98**	0.628	1.142
Silver	107	12.78	13.05	12.85	**12.89**	0.1411	1.095
Silver	109	12.68	12.94	12.88	**12.83**	0.1359	1.059

Internal Standard Factors:

Rhodium	103	0.962	0.974	0.967	**0.962**	n/a	n/a
Indium	115	0.949	0.962	0.964	**0.949**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		K1110524-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 13:10					
Antimony	121	0.5671	0.542	0.5335	**0.5475**	0.0175	3.192
Antimony	123	0.5616	0.5279	0.5272	**0.5389**	0.0197	3.646
Silver	107	0.099	0.097	0.0962	**0.0974**	0.0014	1.487
Silver	109	0.0927	0.0952	0.0961	**0.0947**	0.0018	1.872

Internal Standard Factors:

Rhodium	103	1.123	1.108	1.119	**1.123**	n/a	n/a
Indium	115	1.07	1.077	1.076	**1.07**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		K1110524-001L 1/25			Mean	SD	%RSD
TimeStamp		12/6/11 13:13					
Antimony	121	0.1258	0.1143	0.108	**0.116**	0.0091	7.807
Antimony	123	0.1391	0.1249	0.1274	**0.1305**	0.0076	5.793
Silver	107	0.0182	0.0169	0.0168	**0.0173**	0.0008	4.517
Silver	109	0.019	0.0196	0.0191	**0.0192**	0.0004	1.83

Internal Standard Factors:

Rhodium	103	1.021	1.023	1.022	**1.021**	n/a	n/a
Indium	115	1.006	1.018	1.024	**1.006**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		K1110524-001A 1/5, +10/50 ppb			Mean	SD	%RSD
TimeStamp		12/6/11 13:16					
Antimony	121	47.75	48.44	46.52	**47.57**	0.9686	2.036
Antimony	123	49.75	49.82	48.6	**49.39**	0.6849	1.387
Silver	107	0.0937	0.0966	0.0965	**0.0956**	0.0017	1.737
Silver	109	0.0932	0.0943	0.0961	**0.0945**	0.0014	1.53

Ag not added

Internal Standard Factors:							
Rhodium	103	1.103	1.094	1.084	**1.103**	n/a	n/a
Indium	115	1.052	1.067	1.036	**1.052**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name: / TimeStamp		K1110524-001S 1/5 12/6/11 13:19			Mean	SD	%RSD
Antimony	121	59.08	58.97	57.52	**58.52**	0.8718	1.49
Antimony	123	61.52	59.2	59.48	**60.07**	1.264	2.105
Silver	107	18.5	18.51	18.5	**18.5**	0.0081	0.0437
Silver	109	18.23	18.18	18.13	**18.18**	0.0525	0.2888

Internal Standard Factors:

Rhodium	103	1.121	1.115	1.118	**1.121**	n/a	n/a
Indium	115	0.973	0.959	0.955	**0.973**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		K1110524-001SD 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 13:22					
Antimony	121	54.47	55.06	53.75	**54.43**	0.6564	1.206
Antimony	123	55.21	56.22	54.79	**55.41**	0.7381	1.332
Silver	107	18.06	18.2	17.96	**18.07**	0.121	0.6695
Silver	109	17.52	17.72	17.8	**17.68**	0.1421	0.8036

Internal Standard Factors:

Rhodium	103	1.108	1.101	1.103	**1.108**	n/a	n/a
Indium	115	0.963	0.968	0.953	**0.963**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		K1110524-001A 1/5, +10/50 ppb			Mean	SD	%RSD
TimeStamp		12/6/11 13:27					
Antimony	121	47.86	47.72	47.9	**47.83**	0.0972	0.2032
Antimony	123	49.21	48.26	47.97	**48.48**	0.6491	1.339
Silver	107	10.51	10.3	10.49	**10.43**	0.1136	1.089
Silver	109	10.36	10.21	10.32	**10.29**	0.0739	0.718

Internal Standard Factors:

Rhodium	103	1.095	1.082	1.085	**1.095**	n/a	n/a
Indium	115	1.052	1.034	1.04	**1.052**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		CCV2			Mean	SD	%RSD
TimeStamp		12/6/11 13:29					
Antimony	121	24.36	24.85	24.47	**24.56**	0.2553	1.039
Antimony	123	24.9	24.67	24.48	**24.68**	0.209	0.8469
Silver	107	24.73	24.86	25.01	**24.87**	0.1389	0.5586
Silver	109	24.86	24.94	24.86	**24.89**	0.0436	0.1751

Internal Standard Factors:							
Rhodium	103	0.977	0.981	0.976	**0.977**	n/a	n/a
Indium	115	0.994	0.985	0.981	**0.994**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:		CCB2			Mean	SD	%RSD
TimeStamp		12/6/11 13:33					
Antimony	121	-0.0887	-0.0955	-0.0896	**-0.0913**	0.0037	4.031
Antimony	123	-0.0875	-0.1028	-0.1015	**-0.0973**	0.0085	8.719
Silver	107	0.0095	0.0033	0.0071	**0.0066**	0.0031	47.15
Silver	109	0.0114	0.0057	0.0036	**0.0069**	0.004	58.27

Internal Standard Factors:

Rhodium	103	1.003	0.974	0.975	**1.003**	n/a	n/a
Indium	115	1.02	0.974	0.971	**1.02**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11B
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272104

Sample Name:
TimeStamp

Antimony	121
Antimony	123
Silver	107
Silver	109

Internal Standard Factors:

Rhodium	103
Indium	115

Sample List

Num	Label	Type	Weight	Volume	Dilution	Rack	Row	Column	Height
1	Cal. Blk	Blank	0 kg	0 ml	1.00	0	1	1	145
2	Cal. Stn	Fully Quant Standard	0 kg	0 ml	1.00	0	1	2	145
3	ICV1	Unknown	0 kg	0 ml	1.00	0	1	3	145
4	CCV1	Unknown	0 kg	0 ml	1.00	0	1	2	145
5	ICB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
6	CCB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
7	LLICV	Unknown	0 kg	0 ml	1.00	0	1	4	145
8	ICSA	Unknown	0 kg	0 ml	1.00	0	1	5	145
9	ICSAB	Unknown	0 kg	0 ml	1.00	0	1	6	145
10	HCl Lot # 51116 1/5	Unknown	0 kg	0 ml	1.00	1	4	9	145
11	K1110524-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	10	145
12	K1110169-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	11	145
13	K1110169-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	12	145
14	K1110169-003 1/5	Unknown	0 kg	0 ml	1.00	1	2	1	145
15	K1110169-004 1/5	Unknown	0 kg	0 ml	1.00	1	2	2	145
16	K1110227-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	3	145
17	K1110363-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	4	145
18	K1110363-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	5	145
19	K1110467-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	6	145
20	CCV2	Unknown	0 kg	0 ml	1.00	0	1	2	145
21	CCB2	Unknown	0 kg	0 ml	1.00	0	1	1	145
22	K1110641-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	7	145
23	K1110641-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	8	145
24	K1110689-001 1/5	Unknown	0 kg	0 ml	1.00	1	2	9	145
25	K1110689-002 1/5	Unknown	0 kg	0 ml	1.00	1	2	10	145
26	K1111501-MB 1/5	Unknown	0 kg	0 ml	1.00	1	2	11	145
27	LCSW 1/100	Unknown	0 kg	0 ml	1.00	1	2	12	145
28	K1111501-003 1/5	Unknown	0 kg	0 ml	1.00	1	3	1	145
29	K1111501-003D 1/5	Unknown	0 kg	0 ml	1.00	1	3	2	145
30	K1111501-003S 1/5	Unknown	0 kg	0 ml	1.00	1	3	3	145
31	CCV3	Unknown	0 kg	0 ml	1.00	0	1	2	145
32	CCB3	Unknown	0 kg	0 ml	1.00	0	1	1	145
33	K1111501-001 1/5	Unknown	0 kg	0 ml	1.00	1	3	4	145
34	K1111501-002 1/5	Unknown	0 kg	0 ml	1.00	1	3	5	145
35	K1111501-004 1/5	Unknown	0 kg	0 ml	1.00	1	3	6	145
36	K1111501-005 1/5	Unknown	0 kg	0 ml	1.00	1	3	7	145
37	K1111646-MB 1/5	Unknown	0 kg	0 ml	1.00	1	3	8	145
38	LCSS 1/100	Unknown	0 kg	0 ml	1.00	1	3	9	145
39	K1111646-001 1/5	Unknown	0 kg	0 ml	1.00	1	3	10	145
40	K1111646-001D 1/5	Unknown	0 kg	0 ml	1.00	1	3	11	145
41	K1111646-001S 1/5	Unknown	0 kg	0 ml	1.00	1	3	12	145
42	CCV4	Unknown	0 kg	0 ml	1.00	0	1	2	145
43	CCB4	Unknown	0 kg	0 ml	1.00	0	1	1	145
44	K1111646-002 1/5	Unknown	0 kg	0 ml	1.00	1	4	1	145
45	K1111646-003 1/5	Unknown	0 kg	0 ml	1.00	1	4	2	145
46	K1111646-004 1/5	Unknown	0 kg	0 ml	1.00	1	4	3	145
47	K1111695-001 1/5	Unknown	0 kg	0 ml	1.00	1	4	4	145
48	K1111695-002 1/5	Unknown	0 kg	0 ml	1.00	1	4	5	145

49	K1111695-004 1/5	Unknown	0 kg	0 ml	1.00	1	4	6	145
50	K1111695-005 1/5	Unknown	0 kg	0 ml	1.00	1	4	7	145
51	K1111695-006 1/5	Unknown	0 kg	0 ml	1.00	1	4	8	145
52	CCV5	Unknown	0 kg	0 ml	1.00	0	1	2	145
53	CCB5	Unknown	0 kg	0 ml	1.00	0	1	1	145
54	K1111276-MB 1/5	Unknown	0 kg	0 ml	1.00	1	4	10	145
55	LCSW 1/100	Unknown	0 kg	0 ml	1.00	1	4	11	145
56	K1111276-001 1/5	Unknown	0 kg	0 ml	1.00	1	4	12	145
57	K1111276-002 1/5	Unknown	0 kg	0 ml	1.00	1	4	1	145
58	K1111276-002D 1/5	Unknown	0 kg	0 ml	1.00	1	5	2	145
59	K1111276-002S 1/5	Unknown	0 kg	0 ml	1.00	1	5	3	145
60	CCV6	Unknown	0 kg	0 ml	1.00	0	1	2	145
61	CCB6	Unknown	0 kg	0 ml	1.00	0	1	1	145

Instrument Setup - Sample Configuration

Sample	Configuration	Date
All Samples	acqmet11	6:40:16 12/6/11

Instrument Setup - Configurations

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 6:40:16 12/6/11
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-380.00
Lens1	10.00
Lens2	-85.00
Lens3	-200.00
Pole Bias	2.00
Sampling Depth	370.00
Horizontal	-20.00
Vertical	100.00
Cool	13.00
Auxiliary	0.60
Nebuliser	0.84
Forward power	1,350.00
HT1 Voltage	1,900.00
HT2 Voltage	2,600.00
D1	-34.00
Focus	24.00

ExCell Mass Calibration

Date: 12/6/2011

Mass	Mass DAC	Peak Width (AMU)	Error (AMU)	Include	Masses in Tune Solution
6.015	1291	0.766	0.018	TRUE	
7.016	1551	0.766	-0.004	TRUE	Li-7
9.012	2058	0.766	0	TRUE	Be-9
23.985	5871	0.715	-0.015	TRUE	Mg-24
24.986	6124	0.766	-0.009	TRUE	Co-59
25.983	6378	0.715	-0.01	TRUE	In-115
26.982	6631	0.766	-0.006	TRUE	Ce-140
43.956	10954	0.766	-0.02	TRUE	Pb-208
45.953	11468	0.817	-0.042	TRUE	Bi-209
50.944	12722	0.766	0.022	TRUE	U-238
51.94	12982	0.766	-0.003	TRUE	
52.941	13236	0.817	-0.001	TRUE	
53.949	13489	0.766	0.014	TRUE	
55.935	13970	0.664	0.11	FALSE	
56.935	14256	0.766	-0.014	TRUE	
57.934	14503	0.766	0.015	TRUE	
58.933	14757	0.817	0.016	TRUE	
59.931	15010	0.766	0.02	TRUE	
62.93	15771	0.817	0.029	TRUE	
63.929	16031	0.817	0.006	TRUE	
69.925	17565	0.817	-0.023	TRUE	
75.92	19079	0.766	0.025	TRUE	
77.919	19593	0.817	0.005	TRUE	
112.904	28499	0.817	0.018	TRUE	
114.904	29012	0.766	0.004	TRUE	
118.903	30065	0.765	-0.13	FALSE	
139.905	35389	0.714	-0.026	TRUE	
141.908	35896	0.714	-0.012	TRUE	
155.923	39464	0.765	0.001	TRUE	
157.924	39978	0.714	-0.015	TRUE	
205.974	52224	0.714	-0.001	TRUE	
206.976	52484	0.714	-0.019	TRUE	
207.977	52731	0.714	0.013	TRUE	
208.98	52991	0.714	-0.003	TRUE	
238.051	60401	0.714	0.017	TRUE	

SHORT TERM STABILITY 12-06-11.vge

Excluded In Calib | Excluded In Results | Peak Part Excluded | Multi Element | Semi Quant | Internal Standard | Standard Addition

Uncorrected ICPS Per Mass

S-Calibration Has Edited Standard E-Calibration Edited I-Invalid Calibration V-Valley Integration Failed
F-Interference Correction Failed T-Tripped P-Pulse Counting M-Result Over Max

Run	Label	TimeStamp	6Li	7Li	9Be	59Co	115In	208Pb
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)0.333	(P)56363.153	(P)11783.525	(P)60490.974	(P)54994.820	(P)21465.792
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)0.333	(P)55020.094	(P)11158.857	(P)58622.209	(P)55726.313	(P)22068.381
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)0.000	(P)53288.050	(P)10962.205	(P)58966.617	(P)55601.999	(P)21944.346
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)0.167	(P)52462.994	(P)10998.065	(P)59805.934	(P)53777.029	(P)21270.667
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)0.000	(P)52175.113	(P)10832.940	(P)59964.104	(P)54806.265	(P)21425.057
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)0.167	(P)53861.881	(P)11147.118	(P)59569.968	(P)54981.285	(P)21634.848
	SD of Stability 12-06-20		(P)0.167	(P)1783.898	(P)374.256	(P)761.832	(P)778.043	(P)349.628
	%RSD of Stability 12		(P)100.000	(P)3.312	(P)3.357	(P)1.279	(P)1.415	(P)1.616

Run	Label	TimeStamp	209Bi	220Rn	238U
1	Stability 12-06-2011	12/6/2011 6:53:42 A	(P)32808.472	(P)0.167	(P)32138.617
2	Stability 12-06-2011	12/6/2011 6:54:57 A	(P)33293.776	(P)0.000	(P)33658.779
3	Stability 12-06-2011	12/6/2011 6:56:12 A	(P)33102.988	(P)0.000	(P)33508.254
4	Stability 12-06-2011	12/6/2011 6:57:27 A	(P)31430.709	(P)0.000	(P)32767.209
5	Stability 12-06-2011	12/6/2011 6:58:43 A	(P)31919.959	(P)0.000	(P)32461.510
	Mean of Stability 12-06	12/6/2011 6:53:42 A	(P)32511.181	(P)0.033	(P)32906.874
	SD of Stability 12-06-20		(P)801.255	(P)0.075	(P)658.615
	%RSD of Stability 12		(P)2.465	(P)223.607	(P)2.001

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		Cal. Blk			Mean	SD	%RSD
TimeStamp		12/6/11 13:36					
Antimony	121	0.0005	0.002	-0.0025	**0**	0.0023	0
Antimony	123	0.0065	-0.0025	-0.004	**0**	0.0057	0
Silver	107	-0.0007	-0.0012	0.0018	**0**	0.0016	0
Silver	109	0.0022	-0.0003	-0.0019	**0**	0.002	0

Internal Standard Factors:

Rhodium	103	1.003	1.001	0.996	**1.003**	n/a	n/a
Indium	115	1.002	0.999	0.999	**1.002**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		Cal. Stn			Mean	SD	%RSD
TimeStamp		12/6/11 13:38					
Antimony	121	25.11	25.04	24.85	**25**	0.139	0.556
Antimony	123	25.09	24.8	25.1	**25**	0.1712	0.6849
Silver	107	25.19	24.74	25.07	**25**	0.2315	0.9261
Silver	109	24.87	25.03	25.1	**25**	0.1187	0.4747

Internal Standard Factors:							
Rhodium	103	0.996	0.98	0.989	**0.996**	n/a	n/a
Indium	115	0.988	0.989	0.987	**0.988**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICV1			Mean	SD	%RSD
TimeStamp		12/6/11 13:40					
Antimony	121	25.12	25.53	25.73	**25.46**	0.314	1.233
Antimony	123	25.34	26.06	26.02	**25.81**	0.4063	1.574
Silver	107	12.87	12.94	13.17	**12.99**	0.1603	1.233
Silver	109	12.97	12.97	13.1	**13.01**	0.076	0.5841

Internal Standard Factors:

Rhodium	103	1.003	1.005	1.016	**1.003**	n/a	n/a
Indium	115	1	1.003	1.005	**1**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV1			Mean	SD	%RSD
TimeStamp		12/6/11 13:44					
Antimony	121	24.58	24.88	24.94	**24.8**	0.1951	0.7866
Antimony	123	25.79	25.15	25.06	**25.34**	0.4003	1.58
Silver	107	25.17	24.94	25.18	**25.1**	0.1376	0.5483
Silver	109	25.38	25.41	25.05	**25.28**	0.2005	0.793

Internal Standard Factors:

Rhodium	103	1.008	0.999	0.997	**1.008**	n/a	n/a
Indium	115	1.002	0.992	0.991	**1.002**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICB1			Mean	SD	%RSD
TimeStamp		12/6/11 13:48					
Antimony	121	-0.002	-0.0111	-0.0043	**-0.0058**	0.0047	81.48
Antimony	123	-0.0022	0.0004	0.007	**0.0017**	0.0047	276.4
Silver	107	0.0107	0.0089	0.0115	**0.0104**	0.0013	12.91
Silver	109	0.0063	0.0097	0.0078	**0.008**	0.0017	20.98

Internal Standard Factors:

Rhodium	103	1.012	1.003	1.001	**1.012**	n/a	n/a
Indium	115	1.002	1.008	1.004	**1.002**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB1			Mean	SD	%RSD
TimeStamp		12/6/11 13:51					
Antimony	121	0.0137	0.0033	0.0116	**0.0095**	0.0055	58
Antimony	123	0.01	0.0158	0.0186	**0.0148**	0.0044	29.64
Silver	107	0.0096	0.0124	0.0123	**0.0114**	0.0016	13.93
Silver	109	0.0095	0.0127	0.0113	**0.0111**	0.0016	14.4

Internal Standard Factors:							
Rhodium	103	1.004	0.997	1.025	**1.004** n/a		n/a
Indium	115	1.018	1.004	1.013	**1.018** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LLICV			Mean	SD	%RSD
TimeStamp		12/6/11 13:54					
Antimony	121	0.136	0.1166	0.109	**0.1205**	0.0139	11.53
Antimony	123	0.1421	0.1185	0.1157	**0.1254**	0.0145	11.53
Silver	107	0.0421	0.0467	0.043	**0.0439**	0.0025	5.6
Silver	109	0.0418	0.0408	0.0446	**0.0424**	0.002	4.687

Internal Standard Factors:

Rhodium	103	0.999	1.003	0.997	**0.999**	n/a	n/a
Indium	115	1.035	1.004	0.998	**1.035**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICSA			Mean	SD	%RSD
TimeStamp		12/6/11 13:57					
Antimony	121	0.1533	0.162	0.1411	**0.1521**	0.0105	6.869
Antimony	123	0.1652	0.1552	0.1574	**0.1593**	0.0053	3.313
Silver	107	0.0335	0.036	0.0307	**0.0334**	0.0026	7.866
Silver	109	0.0276	0.0289	0.0295	**0.0286**	0.001	3.472

Internal Standard Factors:							
Rhodium	103	1.281	1.294	1.275	**1.281**	n/a	n/a
Indium	115	1.21	1.223	1.229	**1.21**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		ICSAB			Mean	SD	%RSD
TimeStamp		12/6/11 14:00					
Antimony	121	0.5008	0.474	0.465	**0.4799**	0.0186	3.88
Antimony	123	0.5279	0.5038	0.443	**0.4916**	0.0438	8.909
Silver	107	11.89	11.91	11.8	**11.87**	0.0582	0.49
Silver	109	11.9	11.81	11.75	**11.82**	0.0745	0.63

Internal Standard Factors:

Rhodium	103	1.302	1.293	1.285	**1.302**	n/a	n/a
Indium	115	1.212	1.21	1.203	**1.212**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name: TimeStamp		HCl Lot # 51116 1/5 12/6/11 14:03			Mean	SD	%RSD
Antimony	121	0.0133	-0.0044	0.005	**0.0046**	0.0089	191.3
Antimony	123	0.0266	-0.0027	0.0184	**0.0141**	0.0151	106.9
Silver	107	-0.0055	-0.0065	-0.0082	**-0.0067**	0.0014	20.4
Silver	109	-0.0086	-0.0074	-0.006	**-0.0073**	0.0013	17.75

Internal Standard Factors:

Rhodium	103	1.055	1.059	1.068	**1.055**	n/a	n/a
Indium	115	1.066	1.057	1.055	**1.066**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110524-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:05					
Antimony	121	0.5339	0.5581	0.5334	**0.5418**	0.0141	2.608
Antimony	123	0.5762	0.5632	0.5516	**0.5637**	0.0123	2.186
Silver	107	0.0931	0.1015	0.0947	**0.0965**	0.0045	4.622
Silver	109	0.1443	0.1607	0.1624	**0.1558**	0.01	6.405

Internal Standard Factors:

Rhodium	103	1.203	1.199	1.203	**1.203**	n/a	n/a
Indium	115	1.135	1.142	1.141	**1.135**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:08					
Antimony	121	0.2402	0.2405	0.2448	**0.2418**	0.0026	1.072
Antimony	123	0.2384	0.2528	0.244	**0.2451**	0.0072	2.956
Silver	107	0.1022	0.1124	0.1041	**0.1062**	0.0054	5.084
Silver	109	0.1314	0.1294	0.1337	**0.1315**	0.0022	1.641

Internal Standard Factors:

Rhodium	103	1.128	1.157	1.143	**1.128**	n/a	n/a
Indium	115	1.106	1.131	1.121	**1.106**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:11					
Antimony	121	0.5244	0.4912	0.5151	**0.5103**	0.0171	3.352
Antimony	123	0.5539	0.518	0.5259	**0.5326**	0.0189	3.54
Silver	107	0.1339	0.1354	0.1364	**0.1352**	0.0013	0.9306
Silver	109	0.1464	0.1498	0.1494	**0.1485**	0.0018	1.235

Internal Standard Factors:

Rhodium	103	1.163	1.143	1.148	**1.163**	n/a	n/a
Indium	115	1.116	1.108	1.11	**1.116**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-003 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:15					
Antimony	121	0.2527	0.2605	0.2508	**0.2547**	0.0051	2.013
Antimony	123	0.2833	0.2691	0.2606	**0.271**	0.0115	4.234
Silver	107	0.0766	0.0784	0.0775	**0.0775**	0.0009	1.176
Silver	109	0.1002	0.1044	0.106	**0.1035**	0.003	2.918

Internal Standard Factors:

Rhodium	103	1.131	1.133	1.136	**1.131**	n/a	n/a
Indium	115	1.1	1.103	1.092	**1.1**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110169-004 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:18					
Antimony	121	0.5034	0.5207	0.4956	**0.5066**	0.0128	2.535
Antimony	123	0.5318	0.484	0.4876	**0.5011**	0.0266	5.307
Silver	107	0.1399	0.1377	0.1388	**0.1388**	0.0011	0.771
Silver	109	0.1077	0.1091	0.1041	**0.107**	0.0026	2.404

Internal Standard Factors:

Rhodium	103	1.215	1.213	1.212	**1.215**	n/a	n/a
Indium	115	1.175	1.175	1.159	**1.175**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110227-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:21					
Antimony	121	0.4665	0.4574	0.4466	**0.4568**	0.0099	2.177
Antimony	123	0.4654	0.4693	0.4998	**0.4781**	0.0188	3.939
Silver	107	0.2383	0.2174	0.2362	**0.2306**	0.0115	4.979
Silver	109	0.0933	0.0849	0.0887	**0.089**	0.0042	4.73

Internal Standard Factors:

Rhodium	103	1.162	1.17	1.177	**1.162**	n/a	n/a
Indium	115	1.119	1.116	1.142	**1.119**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110363-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:24					
Antimony	121	0.6459	0.5805	0.5599	**0.5954**	0.0449	7.541
Antimony	123	0.6192	0.5976	0.5626	**0.5931**	0.0286	4.817
Silver	107	0.1046	0.0995	0.0999	**0.1013**	0.0029	2.828
Silver	109	0.1197	0.1215	0.1129	**0.118**	0.0045	3.846

Internal Standard Factors:

Rhodium	103	1.171	1.163	1.157	**1.171**	n/a	n/a
Indium	115	1.128	1.11	1.1	**1.128**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110363-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:27					
Antimony	121	0.2764	0.2604	0.2624	**0.2664**	0.0087	3.279
Antimony	123	0.2679	0.2655	0.27	**0.2678**	0.0023	0.8408
Silver	107	0.085	0.0851	0.0877	**0.0859**	0.0016	1.812
Silver	109	0.1255	0.1244	0.1207	**0.1236**	0.0025	2.03

Internal Standard Factors:

Rhodium	103	1.125	1.125	1.132	**1.125**	n/a	n/a
Indium	115	1.101	1.089	1.103	**1.101**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110467-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:30					
Antimony	121	0.164	0.1805	0.1543	**0.1663**	0.0133	7.976
Antimony	123	0.197	0.175	0.1475	**0.1732**	0.0248	14.33
Silver	107	0.0615	0.0646	0.0607	**0.0622**	0.0021	3.308
Silver	109	0.0892	0.0954	0.0999	**0.0948**	0.0053	5.623

Internal Standard Factors:

Rhodium	103	1.125	1.131	1.118	**1.125** n/a		n/a
Indium	115	1.111	1.119	1.105	**1.111** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV2			Mean	SD	%RSD
TimeStamp		12/6/11 14:33					
Antimony	121	23.72	23.79	23.93	**23.81**	0.1097	0.4606
Antimony	123	24.54	24.21	24.4	**24.38**	0.1621	0.6649
Silver	107	24.27	24.61	24.57	**24.48**	0.1856	0.7579
Silver	109	24.58	24.87	24.54	**24.66**	0.1827	0.7408

Internal Standard Factors:

Rhodium	103	0.99	0.994	0.988	**0.99**	n/a	n/a
Indium	115	1.002	0.998	0.983	**1.002**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB2			Mean	SD	%RSD
TimeStamp		12/6/11 14:36					
Antimony	121	-0.0542	-0.0515	-0.0408	**-0.0488**	0.0071	14.47
Antimony	123	-0.0497	-0.0536	-0.0331	**-0.0455**	0.0109	23.99
Silver	107	0.0078	0.0107	0.0094	**0.0093**	0.0015	15.72
Silver	109	0.0094	0.0095	0.0084	**0.0091**	0.0006	6.936

Internal Standard Factors:							
Rhodium	103	1.002	1.01	1.002	**1.002** n/a		n/a
Indium	115	1.027	1.004	1.017	**1.027** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110641-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:39					
Antimony	121	0.3434	0.3237	0.348	**0.3384**	0.0129	3.804
Antimony	123	0.3389	0.3459	0.3304	**0.3384**	0.0077	2.285
Silver	107	0.1011	0.1087	0.103	**0.1043**	0.004	3.812
Silver	109	0.151	0.1519	0.1496	**0.1508**	0.0011	0.7538

Internal Standard Factors:

Rhodium	103	1.147	1.136	1.142	**1.147**	n/a	n/a
Indium	115	1.108	1.102	1.119	**1.108**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110641-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:42					
Antimony	121	0.922	0.9052	0.8776	**0.9016**	0.0225	2.491
Antimony	123	0.9769	0.9158	0.9416	**0.9447**	0.0307	3.247
Silver	107	0.115	0.1171	0.1174	**0.1165**	0.0013	1.124
Silver	109	0.1219	0.1215	0.1181	**0.1205**	0.0021	1.744

Internal Standard Factors:

Rhodium	103	1.144	1.154	1.146	**1.144**	n/a	n/a
Indium	115	1.11	1.096	1.106	**1.11**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110689-001 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:45					
Antimony	121	0.3682	0.3567	0.3588	**0.3613**	0.0061	1.695
Antimony	123	0.3806	0.3834	0.3713	**0.3784**	0.0063	1.678
Silver	107	0.1	0.1022	0.1011	**0.1011**	0.0011	1.061
Silver	109	0.1286	0.1368	0.1317	**0.1324**	0.0041	3.109

Internal Standard Factors:

Rhodium	103	1.12	1.127	1.121	**1.12**	n/a	n/a
Indium	115	1.095	1.083	1.071	**1.095**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1110689-002 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:48					
Antimony	121	0.2014	0.2074	0.1783	**0.1957**	0.0154	7.845
Antimony	123	0.2189	0.2051	0.1924	**0.2054**	0.0133	6.455
Silver	107	0.072	0.0728	0.0728	**0.0726**	0.0005	0.6369
Silver	109	0.1152	0.1113	0.1153	**0.1139**	0.0023	1.989

Internal Standard Factors:

Rhodium	103	1.122	1.115	1.12	**1.122**	n/a	n/a
Indium	115	1.087	1.085	1.07	**1.087**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1111501-MB 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:51					
Antimony	121	-0.0469	-0.0439	-0.047	**-0.0459**	0.0018	3.854
Antimony	123	-0.0367	-0.0439	-0.0466	**-0.0424**	0.0051	12.12
Silver	107	-0.0097	-0.0093	-0.0099	**-0.0096**	0.0003	3.152
Silver	109	-0.0106	-0.0092	-0.0099	**-0.0099**	0.0007	7.34

Internal Standard Factors:

Rhodium	103	1.015	1.018	1.005	**1.015**	n/a	n/a
Indium	115	1.018	1.008	1.008	**1.018**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		LCSW 1/100			Mean	SD	%RSD
TimeStamp		12/6/11 14:54					
Antimony	121	50.4	49.66	49.19	**49.75**	0.6106	1.227
Antimony	123	51.11	50.46	49.74	**50.44**	0.6884	1.365
Silver	107	12.14	12.11	12.09	**12.11**	0.0228	0.1883
Silver	109	12.14	12.15	12.17	**12.15**	0.0136	0.1118

Internal Standard Factors:							
Rhodium	103	0.962	0.961	0.967	**0.962**	n/a	n/a
Indium	115	0.964	0.961	0.97	**0.964**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1111501-003 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 14:57					
Antimony	121	0.1844	0.1595	0.1714	**0.1718**	0.0125	7.251
Antimony	123	0.2181	0.211	0.2159	**0.215**	0.0036	1.692
Silver	107	0.1886	0.1857	0.1943	**0.1895**	0.0044	2.331
Silver	109	0.0946	0.0856	0.0861	**0.0888**	0.0051	5.715

Internal Standard Factors:

Rhodium	103	1.327	1.322	1.331	**1.327**	n/a	n/a
Indium	115	1.235	1.248	1.254	**1.235**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1111501-003D 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 15:01					
Antimony	121	0.1371	0.1261	0.1298	**0.131**	0.0056	4.287
Antimony	123	0.1811	0.1793	0.1786	**0.1797**	0.0013	0.7379
Silver	107	0.215	0.2058	0.1975	**0.2061**	0.0087	4.244
Silver	109	0.0897	0.0932	0.091	**0.0913**	0.0018	1.969

Internal Standard Factors:

Rhodium	103	1.321	1.328	1.323	**1.321**	n/a	n/a
Indium	115	1.247	1.246	1.237	**1.247**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		K1111501-003S 1/5			Mean	SD	%RSD
TimeStamp		12/6/11 15:04					
Antimony	121	122.3	119.7	118.9	**120.3**	1.795	1.491
Antimony	123	123.8	121	120.9	**121.9**	1.658	1.36
Silver	107	17.92	18.29	17.77	**17.99**	0.2671	1.485
Silver	109	17.89	18	17.69	**17.86**	0.1578	0.8836

Internal Standard Factors:

Rhodium	103	1.291	1.311	1.3	**1.291**	n/a	n/a
Indium	115	1.217	1.214	1.202	**1.217**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCV3			Mean	SD	%RSD
TimeStamp		12/6/11 15:06					
Antimony	121	24.14	23.91	23.73	**23.92**	0.2084	0.8711
Antimony	123	24.32	24.2	24.28	**24.26**	0.0632	0.2606
Silver	107	24.4	24.15	24.12	**24.22**	0.1527	0.6302
Silver	109	24.48	24.53	24.15	**24.39**	0.2071	0.8493

Internal Standard Factors:

Rhodium	103	1.038	1.035	1.038	**1.038**	n/a	n/a
Indium	115	1.039	1.028	1.034	**1.039**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 12-06-11C
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #272002

Sample Name:		CCB3			Mean	SD	%RSD
TimeStamp		12/6/11 15:09					
Antimony	121	-0.0565	-0.0546	-0.0518	**-0.0543**	0.0024	4.351
Antimony	123	-0.0602	-0.0437	-0.0564	**-0.0534**	0.0086	16.16
Silver	107	0.0121	0.0125	0.0108	**0.0118**	0.0009	7.286
Silver	109	0.01	0.0095	0.01	**0.0098**	0.0003	3.15

Internal Standard Factors:

Rhodium	103	1.052	1.051	1.052	**1.052**	n/a	n/a
Indium	115	1.061	1.05	1.04	**1.061**	n/a	n/a

Carbonyls by High Performance Liquid Chromatography

Organic Analysis:
Carbonyls by High Performance Liquid Chromatography

Summary Package

Sample and QC Results

Client: URS Corporation
Project: Santa Susana Field Laboratory
Service Request: K1110227

Cover Page - Organic Analysis Data Package
Carbonyls by High Performance Liquid Chromatography

Sample Name	Lab Code	Date Collected	Date Received
CZBS0054S005 Soil	K1110227-001	10/19/2011	10/21/2011
CZBS0054S005 SoilMS	KWG1110804-1	10/19/2011	10/21/2011
CZBS0054S005 SoilDMS	KWG1110804-2	10/19/2011	10/21/2011

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Doug Hederly
Name: Doug Hederly

Date: 11/3/11
Title: Scientist

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/2011
Sample Matrix:	Soil	**Date Received:**	10/21/2011
		Date Prepared:	10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name:	CZBS0054S005 Soil	**Units:**	mg/Kg
Lab Code:	K1110227-001	**Basis:**	Dry
Preparation Method:	METHOD	**Level:**	Low
Extraction Method:	METHOD		
Analysis Method:	8315A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	ND	U	2.2	0.66	1	10/26/11	10/27/11	KWG1110804	

Comments:

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Prepared:	10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1110804-5	**Basis:**	Dry
Preparation Method:	METHOD	**Level:**	Low
Extraction Method:	METHOD		
Analysis Method:	8315A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	ND	U	2.0	0.60	1	10/26/11	10/27/11	KWG1110804	

Comments:

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Prepared:**	10/25/2011
Sample Matrix:	Soil	**Date Extracted:**	10/26/2011
		Date Analyzed:	10/27/2011

Matrix Spike/Duplicate Matrix Spike Summary
Carbonyls by High Performance Liquid Chromatography

Sample Name:	CZBS0054S005 Soil	**Units:**	mg/Kg
Lab Code:	K1110227-001	**Basis:**	Dry
Extraction Method:	METHOD/METHOD	**Level:**	Low
Analysis Method:	8315A	**Extraction Lot:**	KWG1110804

		CZBS0054S005 SoilMS KWG1110804-1 Matrix Spike			CZBS0054S005 SoilDMS KWG1110804-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Formaldehyde	ND	9.69	10.8	90	9.46	10.7	88	26-126	2	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Prepared:**	10/25/2011
Sample Matrix:	Soil	**Date Extracted:**	10/26/2011
		Date Analyzed:	10/27/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Carbonyls by High Performance Liquid Chromatography

Extraction Method:	METHOD/METHOD	**Units:**	mg/Kg
Analysis Method:	8315A	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1110804

	Lab Control Sample KWG1110804-3 Lab Control Spike			Duplicate Lab Control Sample KWG1110804-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Formaldehyde	8.84	9.72	91	8.44	9.72	87	26-126	5	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Limit of Quantitation - LOQ Verification

Columbia Analytical Services - Kelso

Analytical Method:	EPA 8315A			
Extr./Dig. Method:	Method	Instrument:	LC10	
Matrix:	Soil	Analyst(s):	Matthew Hall	
Units:	mg/Kg			

Analyte	Date Analyzed / Spike Level	11/27/11 Result	Result	Result	Result	Percent Recovery	Percent RSD	Acceptance Limits
Formaldehyde	2.00	1.84				92	#DIV/0!	50-150

Supervisor Approval:

QA Approval:

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Extracted:**	10/26/2011
Sample Matrix:	Soil	**Date Analyzed:**	10/27/2011
		Time Analyzed:	10:20

Method Blank Summary
Carbonyls by High Performance Liquid Chromatography

Sample Name:	Method Blank	**Instrument ID:**	LC10
Lab Code:	KWG1110804-5	**File ID:**	J:\LC10\DATA\102711AH\1027000104.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	8315A	**Extraction Lot:**	KWG1110804

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1110804-3	J:\LC10\DATA\102711AH\1027000105.D	10/27/11	10:37
Duplicate Lab Control Sample	KWG1110804-4	J:\LC10\DATA\102711AH\1027000106.D	10/27/11	10:54
CZBS0054S005 Soil	K1110227-001	J:\LC10\DATA\102711AH\1027000111.D	10/27/11	12:19
CZBS0054S005 SoilMS	KWG1110804-1	J:\LC10\DATA\102711AH\1027000112.D	10/27/11	12:35
CZBS0054S005 SoilDMS	KWG1110804-2	J:\LC10\DATA\102711AH\1027000113.D	10/27/11	12:52

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Extracted:**	10/26/2011
Sample Matrix:	Soil	**Date Analyzed:**	10/27/2011
		Time Analyzed:	10:37

Lab Control Sample Summary
Carbonyls by High Performance Liquid Chromatography

Sample Name:	Lab Control Sample	**Instrument ID:**	LC10
Lab Code:	KWG1110804-3	**File ID:**	J:\LC10\DATA\102711AH\1027000105.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	8315A	**Extraction Lot:**	KWG1110804

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1110804-5	J:\LC10\DATA\102711AH\1027000104.D	10/27/11	10:20
CZBS0054S005 Soil	K1110227-001	J:\LC10\DATA\102711AH\1027000111.D	10/27/11	12:19
CZBS0054S005 SoilMS	KWG1110804-1	J:\LC10\DATA\102711AH\1027000112.D	10/27/11	12:35
CZBS0054S005 SoilDMS	KWG1110804-2	J:\LC10\DATA\102711AH\1027000113.D	10/27/11	12:52

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Calibration Date: 08/05/2011

Initial Calibration Summary
Carbonyls by High Performance Liquid Chromatography

Calibration ID: CAL10751
Instrument ID: LC10

Column: 100x3.2mm 3u

Level ID	File ID
A	J:\LC07\Data\080511AH\0805000303.D
B	J:\LC07\Data\080511AH\0805000305.D
C	J:\LC07\Data\080511AH\0805000306.D
D	J:\LC07\Data\080511AH\0805000307.D
E	J:\LC07\Data\080511AH\0805000308.D
F	J:\LC07\Data\080511AH\0805000309.D
G	J:\LC07\Data\080511AH\0805000310.D
H	J:\LC08\Data\080511AH\0805000304.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Formaldehyde	A	100	83200	B	400	91000	C	1000	88300	D	2000	90600	E	5000	91200
	F	10000	91200	G	20000	87700	H	200	78900						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Calibration Date: 08/05/2011

Initial Calibration Summary
Carbonyls by High Performance Liquid Chromatography

Calibration ID: CAL10751
Instrument ID: LC10

Column: 100x3.2mm 3u

Analyte Name	Compound Type	Calibration Evaluation					
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	
Formaldehyde	MS	AverageRF	% RSD	5.1		≤ 20	

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Calibration Date: 08/05/2011
Date Analyzed: 08/05/2011

Second Source Calibration Verification
Carbonyls by High Performance Liquid Chromatography

Calibration Type: External Standard
Analysis Method: 8315A

Calibration ID: CAL10751
Units: ug/L

File ID: J:\LC07\Data\080511AH\0805000311.D

Column ID: 100x3.2mm 3u

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Formaldehyde	2000	2200	87800	95000	8	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Date Analyzed: 10/27/2011

Continuing Calibration Verification Summary
Carbonyls by High Performance Liquid Chromatography

Calibration Type: External Standard
Analysis Method: 8315A

Calibration Date: 08/05/2011
Calibration ID: CAL10751
Analysis Lot: KWG1110982
Units: ug/L

File ID: J:\LC10\DATA\102711AH\1027000103.D

Column ID: 100x3.2mm 3u

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Formaldehyde	2000	2000	87800	87900	0	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Date Analyzed: 10/27/2011

Continuing Calibration Verification Summary
Carbonyls by High Performance Liquid Chromatography

Calibration Type: External Standard
Analysis Method: 8315A

Calibration Date: 08/05/2011
Calibration ID: CAL10751
Analysis Lot: KWG1110982
Units: ug/L

File ID: J:\LC10\DATA\102711AH\1027000114.D

Column ID: 100x3.2mm 3u

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Formaldehyde	2000	2000	87800	88200	0	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227

Analysis Run Log
Carbonyls by High Performance Liquid Chromatography

Analysis Method: 8315A

Analysis Lot: KWG1110982
Instrument ID: LC10
Column: 100x3.2mm 3u

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
27000102.D	Instrument Blank	KWG1110982-1	10/27/2011	09:47		10/27/2011	10:03
27000103.D	Continuing Calibration Verification	KWG1110982-2	10/27/2011	10:03		10/27/2011	10:20
27000104.D	Method Blank	KWG1110804-5	10/27/2011	10:20		10/27/2011	10:37
27000105.D	Lab Control Sample	KWG1110804-3	10/27/2011	10:37		10/27/2011	10:54
27000106.D	Duplicate Lab Control Sample	KWG1110804-4	10/27/2011	10:54		10/27/2011	11:11
27000107.D	ZZZZZZ	ZZZZZZ	10/27/2011	11:11		10/27/2011	11:28
27000108.D	ZZZZZZ	ZZZZZZ	10/27/2011	11:28		10/27/2011	11:44
27000109.D	ZZZZZZ	ZZZZZZ	10/27/2011	11:45		10/27/2011	12:01
27000110.D	ZZZZZZ	ZZZZZZ	10/27/2011	12:02		10/27/2011	12:18
27000111.D	CZBS0054S005 Soil	K1110227-001	10/27/2011	12:19		10/27/2011	12:35
27000112.D	CZBS0054S005 SoilMS	KWG1110804-1	10/27/2011	12:35		10/27/2011	12:52
27000113.D	CZBS0054S005 SoilDMS	KWG1110804-2	10/27/2011	12:52		10/27/2011	13:09
27000114.D	Continuing Calibration Verification	KWG1110982-3	10/27/2011	13:09		10/27/2011	13:26
27000115.D	Instrument Blank	KWG1110982-4	10/27/2011	13:26		10/27/2011	13:43
27000201.D	Instrument Blank	KWG1110982-5	10/27/2011	17:34		10/27/2011	17:51
27000202.D	ZZZZZZ	ZZZZZZ	10/27/2011	17:51		10/27/2011	18:08
27000203.D	ZZZZZZ	ZZZZZZ	10/27/2011	18:08		10/27/2011	18:25
27000204.D	ZZZZZZ	ZZZZZZ	10/27/2011	18:25		10/27/2011	18:42
27000205.D	ZZZZZZ	ZZZZZZ	10/27/2011	18:42		10/27/2011	18:58
27000206.D	ZZZZZZ	ZZZZZZ	10/27/2011	18:59		10/27/2011	19:15
27000207.D	Continuing Calibration Verification	KWG1110982-6	10/27/2011	19:16		10/27/2011	19:32
27000208.D	Instrument Blank	KWG1110982-7	10/27/2011	19:33		10/27/2011	19:49

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Prepared:**	10/25/2011
Sample Matrix:	Soil	**Date Extracted:**	10/26/2011

Extraction Prep Log
Carbonyls by High Performance Liquid Chromatography

Preparation Method:	METHOD	**Extraction Lot:**	KWG1110804
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	8315A		

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
CZBS0054S005 Soil	K1110227-001	10/19/11	10/21/11	5.046g	25ml	91.3	
Method Blank	KWG1110804-5	NA	NA	5.142g	25ml	NA	
CZBS0054S005 SoilMS	KWG1110804-1	10/19/11	10/21/11	5.064g	25ml	91.3	
CZBS0054S005 SoilDMS	KWG1110804-2	10/19/11	10/21/11	5.118g	25ml	91.3	
Lab Control Sample	KWG1110804-3	NA	NA	5.142g	25ml	NA	
Duplicate Lab Control Sample	KWG1110804-4	NA	NA	5.142g	25ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Carbonyls by High Performance Liquid Chromatography
Validation Package

Organic Analysis:
Carbonyls by High Performance Liquid Chromatography
Validation Package

QC Reports

u:\Stealth\Crystal.rpt\DividerC.rpt

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Prepared:**	10/25/2011
Sample Matrix:	Soil	**Date Extracted:**	10/26/2011
		Date Analyzed:	10/27/2011

Matrix Spike/Duplicate Matrix Spike Summary
Carbonyls by High Performance Liquid Chromatography

Sample Name:	CZBS0054S005 Soil	**Units:**	mg/Kg
Lab Code:	K1110227-001	**Basis:**	Dry
Extraction Method:	METHOD/METHOD	**Level:**	Low
Analysis Method:	8315A	**Extraction Lot:**	KWG1110804

Analyte Name	Sample Result	CZBS0054S005 SoilMS KWG1110804-1 Matrix Spike			CZBS0054S005 SoilDMS KWG1110804-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Formaldehyde	ND	9.69	10.8	90	9.46	10.7	88	26-126	2	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Prepared:**	10/25/2011
Sample Matrix:	Soil	**Date Extracted:**	10/26/2011
		Date Analyzed:	10/27/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Carbonyls by High Performance Liquid Chromatography

Extraction Method:	METHOD/METHOD	**Units:**	mg/Kg
Analysis Method:	8315A	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1110804

	Lab Control Sample KWG1110804-3 Lab Control Spike			Duplicate Lab Control Sample KWG1110804-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Formaldehyde	8.84	9.72	91	8.44	9.72	87	26-126	5	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Limit of Quantitation - LOQ Verification

Columbia Analytical Services - Kelso

Analytical Method:	EPA 8315A			
Extr./Dig. Method:	Method	Instrument:	LC10	
Matrix:	Soil	Analyst(s):	Matthew Hall	
Units:	mg/Kg			

Analyte	Date Analyzed / Spike Level	11/27/11 Result	Result	Result	Result	Percent Recovery	Percent RSD	Acceptance Limits
Formaldehyde	2.00	1.84				92	#DIV/0!	50-150

Supervisor Approval:	
QA Approval:	

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Extracted:**	10/26/2011
Sample Matrix:	Soil	**Date Analyzed:**	10/27/2011
		Time Analyzed:	10:20

Method Blank Summary
Carbonyls by High Performance Liquid Chromatography

Sample Name:	Method Blank	**Instrument ID:**	LC10
Lab Code:	KWG1110804-5	**File ID:**	J:\LC10\DATA\102711AH\1027000104.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	8315A	**Extraction Lot:**	KWG1110804

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1110804-3	J:\LC10\DATA\102711AH\1027000105.D	10/27/11	10:37
Duplicate Lab Control Sample	KWG1110804-4	J:\LC10\DATA\102711AH\1027000106.D	10/27/11	10:54
CZBS0054S005 Soil	K1110227-001	J:\LC10\DATA\102711AH\1027000111.D	10/27/11	12:19
CZBS0054S005 SoilMS	KWG1110804-1	J:\LC10\DATA\102711AH\1027000112.D	10/27/11	12:35
CZBS0054S005 SoilDMS	KWG1110804-2	J:\LC10\DATA\102711AH\1027000113.D	10/27/11	12:52

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Extracted:**	10/26/2011
Sample Matrix:	Soil	**Date Analyzed:**	10/27/2011
		Time Analyzed:	10:37

Lab Control Sample Summary
Carbonyls by High Performance Liquid Chromatography

Sample Name:	Lab Control Sample	**Instrument ID:**	LC10
Lab Code:	KWG1110804-3	**File ID:**	J:\LC10\DATA\102711AH\1027000105.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	8315A	**Extraction Lot:**	KWG1110804

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1110804-5	J:\LC10\DATA\102711AH\1027000104.D	10/27/11	10:20
CZBS0054S005 Soil	K1110227-001	J:\LC10\DATA\102711AH\1027000111.D	10/27/11	12:19
CZBS0054S005 SoilMS	KWG1110804-1	J:\LC10\DATA\102711AH\1027000112.D	10/27/11	12:35
CZBS0054S005 SoilDMS	KWG1110804-2	J:\LC10\DATA\102711AH\1027000113.D	10/27/11	12:52

Organic Analysis:
Carbonyls by High Performance Liquid Chromatography
Validation Package

Raw Data

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/2011
Sample Matrix:	Soil	**Date Received:**	10/21/2011
		Date Prepared:	10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name:	CZBS0054S005 Soil	**Units:**	mg/Kg
Lab Code:	K1110227-001	**Basis:**	Dry
Preparation Method:	METHOD	**Level:**	Low
Extraction Method:	METHOD		
Analysis Method:	8315A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	ND	U	2.2	0.66	1	10/26/11	10/27/11	KWG1110804	

Comments:

Exception Report

Data File:	J:\LC10\DATA\102711AH\1027000111.D	**Date Acquired:**	10/27/2011 12:19
Lab ID:	K1110227-001	**Date Quantitated:**	10/28/2011 08:56
RunType:	SMPL	**Batch ID:**	KWG1110982
Matrix:	SOIL	**Analysis Method:**	8315A
		ListJoinID:	LJ2750

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
CAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: JS 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000111.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 12:19	**Quant Date:**	10/28/2011 08:56	**Vial:**	30
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1110227-001			**Soln Conc. Units:**	ug/L

Bottle ID:	02	**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8315A CARBONYLS	**Collect Date:**	10/19/2011	**Receive Date:**	10/21/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	KWG1110804	**Report Group:**	K1110227
Analysis Method:	8315A	**Prep Method:**	METHOD	**Pre-Prep Meth:**	METHOD
		Prep Date:	10/26/2011	**Pre-Prep Date:**	10/25/2011
Prep Ref:	1069741				

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:	Carbonyls by High Performance Liquid Chromatography	**Report List ID:**	LJ2750
		Method ID:	MJ396
MB Ref:	J:\LC10\DATA\102711AH\1027000104.D	**Quant based on Report List**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde			0		0.60	U	

Prep Amount:	5.046 g	**Dilution:**	1.0
Prep Final Vol:	25 ml	**Unit Factor:**	0.001
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

: Undetected at or above MDL
Analyte detected above MDL, but below MRL
: Hit above MRL also found in Method Blank
: Analyte concentration above high point of ICAL
: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000111.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 12:19:03
Operator : MH
Sample : K1110227-1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:10 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

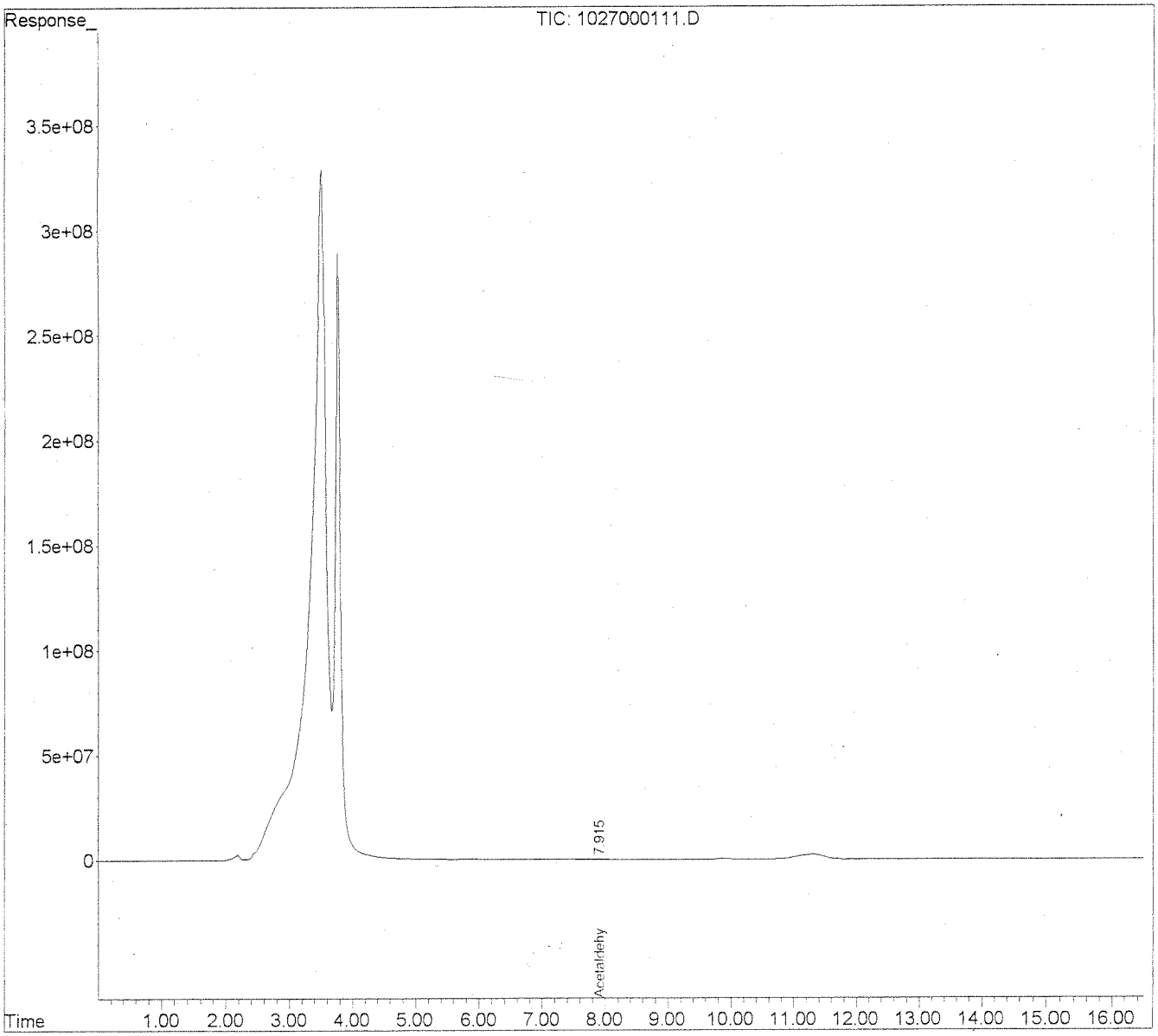
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	0.000	0	N.D.	ug/L
2) T	Acetaldehyde	7.915	1039645	17.791	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000111.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 12:19:03
Operator : MH
Sample : K1110227-1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:10 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: NA
Date Received: NA
Date Prepared: 10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name: Method Blank
Lab Code: KWG1110804-5

Units: mg/Kg
Basis: Dry

Preparation Method: METHOD
Extraction Method: METHOD
Analysis Method: 8315A

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	ND	U	2.0	0.60	1	10/26/11	10/27/11	KWG1110804	

Comments:

Exception Report

Data File: J:\LC10\DATA\102711AH\1027000104.D
Lab ID: KWG1110804-5
RunType: MB
Matrix: SOIL

Date Acquired: 10/27/2011 10:20
Date Quantitated: 10/28/2011 08:55
Batch ID: KWG1110982
Analysis Method: 8315A
MethodJoinID: MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
CAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: S/10-28-11

Secondary Review: A 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000104.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 10:20	**Quant Date:**	10/28/2011 08:55	**Vial:**	23
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1110804-5			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/26/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	KWG1110804	**Report Group:**	
Analysis Method:	8315A	**Prep Method:**	METHOD	**Pre-Prep Meth:**	METHOD
		Prep Date:	10/26/2011	**Pre-Prep Date:**	10/25/2011
Prep Ref:	1069748				

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde			0		0.60	U	
Acetaldehyde	7.91	-0.04	1132633	19.38	1.0	U	

Prep Amount:	5.142 g	**Dilution:**	1.0
Prep Final Vol:	25 ml	**Unit Factor:**	0.001
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

: Undetected at or above MDL
Analyte detected above MDL, but below MRL
: Hit above MRL also found in Method Blank
: Analyte concentration above high point of ICAL
: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000104.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:20:49
Operator : MH
Sample : KWG1110804-5 MB
Misc :
ALS Vial : 23 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:56 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

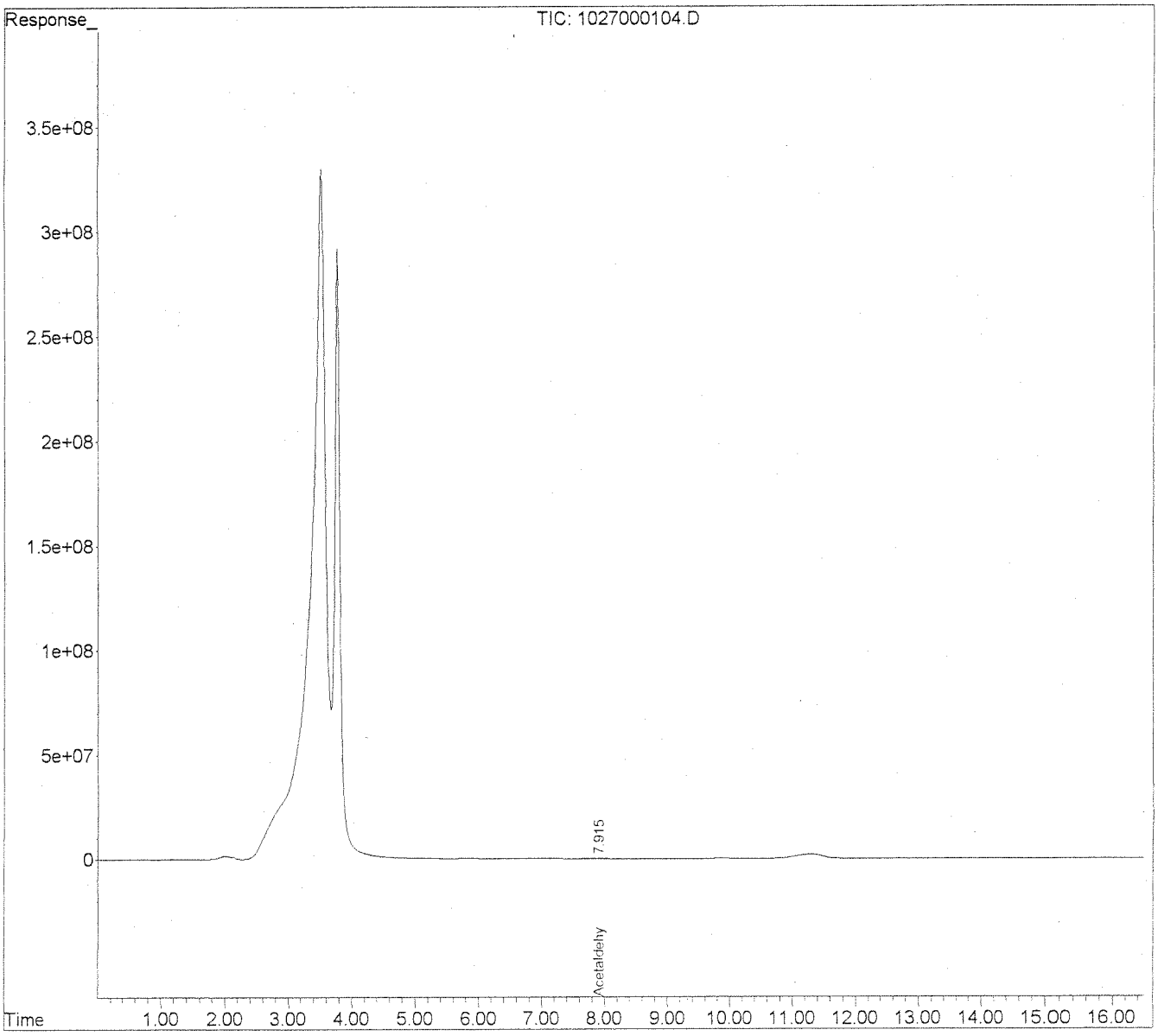
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	0.000	0	N.D.	ug/L
2) T	Acetaldehyde	7.915	1132633	19.382	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000104.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:20:49
Operator : MH
Sample : KWG1110804-5 MB
Misc :
ALS Vial : 23 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:56 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: 10/19/2011
Date Received: 10/21/2011
Date Prepared: 10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name: CZBS0054S005 SoilMS
Lab Code: KWG1110804-1

Units: mg/Kg
Basis: Dry

Preparation Method: METHOD
Extraction Method: METHOD
Analysis Method: 8315A

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	**9.69**		2.2	0.65	1	10/26/11	10/27/11	KWG1110804	

Comments:

Exception Report

Data File:	J:\LC10\DATA\102711AH\1027000112.D	Date Acquired:	10/27/2011 12:35
Lab ID:	KWG1110804-1 -- K1110227-001MS	Date Quantitated:	10/28/2011 08:56
RunType:	MS	Batch ID:	KWG1110982
Matrix:	SOIL	Analysis Method:	8315A
		MethodJoinID:	MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
CAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: AK 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000112.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 12:35	**Quant Date:**	10/28/2011 08:56	**Vial:**	31
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1110804-1 -- K1110227-001MS			**Soln Conc. Units:**	ug/L

Bottle ID:	02	**Tier:**		**Matrix:**	SOIL
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/26/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	KWG1110804	**Report Group:**	
Analysis Method:	8315A	**Prep Method:**	METHOD	**Pre-Prep Meth:**	METHOD
		Prep Date:	10/26/2011	**Pre-Prep Date:**	10/25/2011
Prep Ref:	1069744				

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:	J:\LC10\DATA\102711AH\1027000104.D	**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.88	-0.01	157255901	1,792	8.85		
Acetaldehyde	7.94	-0.01	100825326	1,725	8.52		

Prep Amount:	5.064 g	**Dilution:**	1.0
Prep Final Vol:	25 ml	**Unit Factor:**	0.001
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

: Undetected at or above MDL
Analyte detected above MDL, but below MRL
: Hit above MRL also found in Method Blank
: Analyte concentration above high point of ICAL
: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\10271lAH\
Data File : 1027000112.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 12:35:57
Operator : MH
Sample : K1110227-1MS
Misc :
ALS Vial : 31 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:12 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) T Formaldehyde	5.875	157255901	1791.734	ug/L
2) T Acetaldehyde	7.942	100825326	1725.383	ug/L
3) T Propionaldehyde	0.000	0	N.D.	ug/L

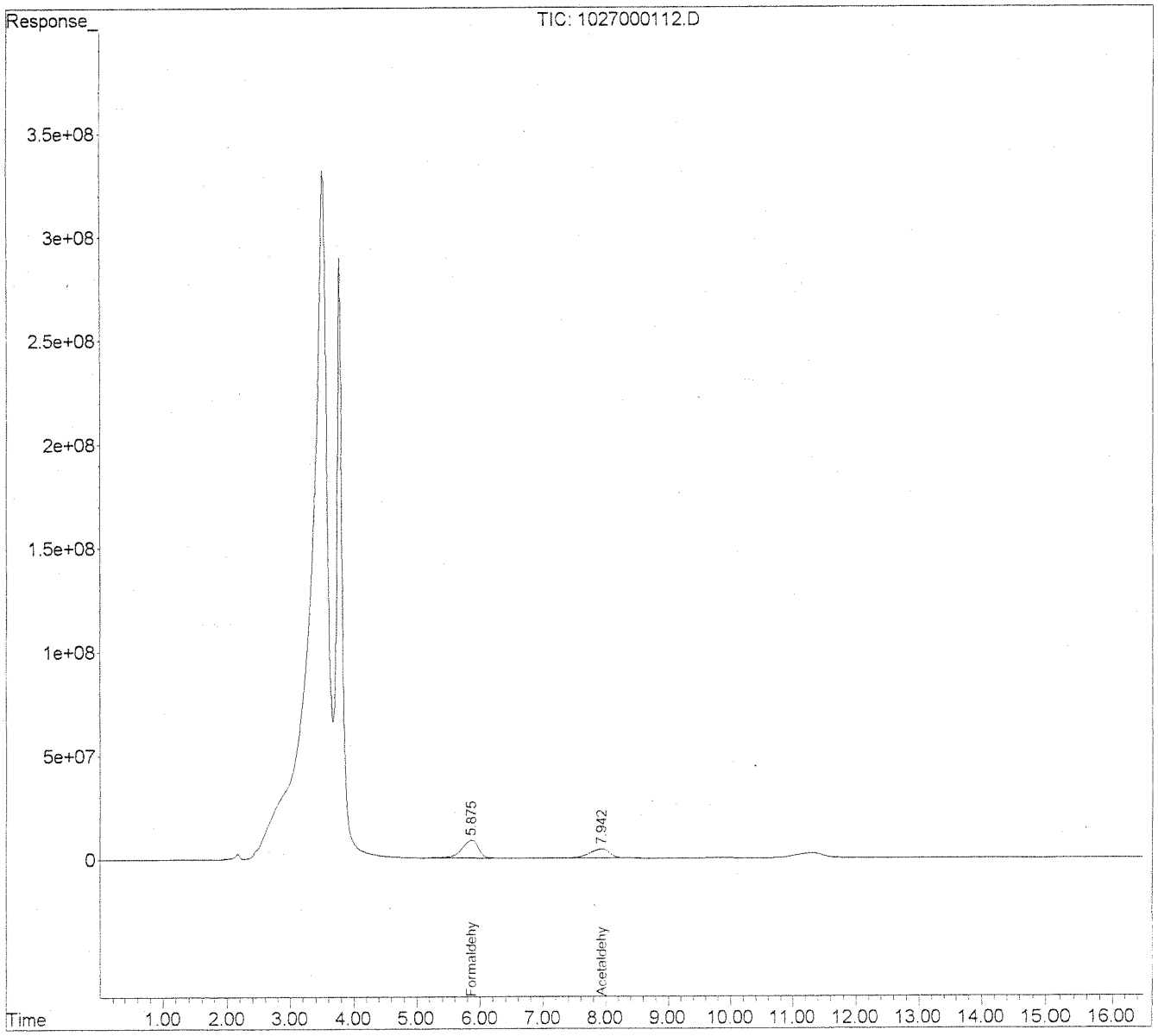
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000112.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 12:35:57
Operator : MH
Sample : K1110227-1MS
Misc :
ALS Vial : 31 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:12 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Collected: 10/19/2011
Date Received: 10/21/2011
Date Prepared: 10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name: CZBS0054S005 SoilDMS
Lab Code: KWG1110804-2

Units: mg/Kg
Basis: Dry

Preparation Method: METHOD
Extraction Method: METHOD
Analysis Method: 8315A

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	**9.46**		2.2	0.65	1	10/26/11	10/27/11	KWG1110804	

Comments:

Exception Report

)ata File: J:\LC10\DATA\102711AH\1027000113.D
.ab ID: KWG1110804-2 -- K1110227-001DMS
:unType: DMS
Matrix: SOIL

Date Acquired: 10/27/2011 12:52
Date Quantitated: 10/28/2011 08:56
Batch ID: KWG1110982
Analysis Method: 8315A
MethodJoinID: MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
CAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: A 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000113.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 12:52	**Quant Date:**	10/28/2011 08:56	**Vial:**	32
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG1110804-2 -- K1110227-001DMS			**Soln Conc. Units:**	ug/L

Bottle ID:	02	**Tier:**		**Matrix:**	SOIL
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/26/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	KWG1110804	**Report Group:**	
Analysis Method:	8315A	**Prep Method:**	METHOD	**Pre-Prep Meth:**	METHOD
		Prep Date:	10/26/2011	**Pre-Prep Date:**	10/25/2011
Prep Ref:	1069745				

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:	J:\LC10\DATA\102711AH\1027000104.D	**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.87	-0.02	155233983	1,769	8.64		
Acetaldehyde	7.94	-0.01	102366746	1,752	8.56		

Prep Amount:	5.118 g	**Dilution:**	1.0
Prep Final Vol:	25 ml	**Unit Factor:**	0.001
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

: Undetected at or above MDL
: Analyte detected above MDL, but below MRL
: Hit above MRL also found in Method Blank
: Analyte concentration above high point of ICAL
: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000113.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 12:52:50
Operator : MH
Sample : K1110227-1DMS
Misc :
ALS Vial : 32 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:14 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

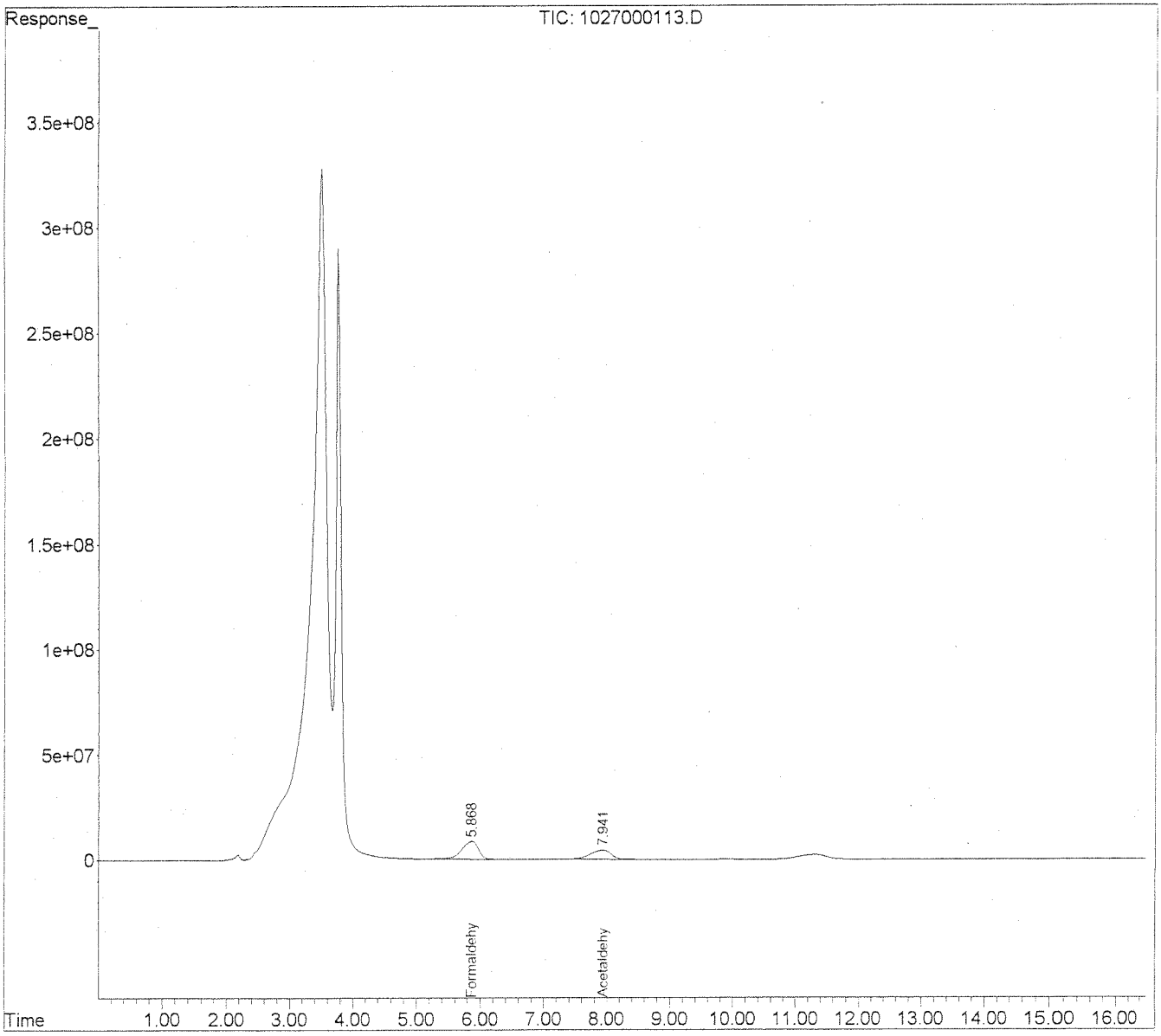
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.868	155233983	1768.697	ug/L
2) T	Acetaldehyde	7.941	102366746	1751.761	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000113.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 12:52:50
Operator : MH
Sample : K1110227-1DMS
Misc :
ALS Vial : 32 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:14 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Prepared:	10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name:	Lab Control Sample	**Units:**	mg/Kg
Lab Code:	KWG1110804-3	**Basis:**	Dry
Preparation Method:	METHOD	**Level:**	Low
Extraction Method:	METHOD		
Analysis Method:	8315A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	**8.84**		2.0	0.60	1	10/26/11	10/27/11	KWG1110804	

Comments:

Exception Report

Data File:	J:\LC10\DATA\102711AH\1027000105.D	Date Acquired:	10/27/2011 10:37
Lab ID:	KWG1110804-3	Date Quantitated:	10/28/2011 08:55
RunType:	LCS	Batch ID:	KWG1110982
Matrix:	SOIL	Analysis Method:	8315A
		MethodJoinID:	MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
CAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: JS 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000105.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 10:37	**Quant Date:**	10/28/2011 08:55	**Vial:**	24
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1110804-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/26/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	KWG1110804	**Report Group:**	
Analysis Method:	8315A	**Prep Method:**	METHOD	**Pre-Prep Meth:**	METHOD
Prep Ref:	1069746	**Prep Date:**	10/26/2011	**Pre-Prep Date:**	10/25/2011

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:		**Method ID:**	MJ396
MB Ref:	J:\LC10\DATA\102711AH\1027000104.D	**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.86	-0.03	159535316	1,818	8.84		
Acetaldehyde	7.92	-0.03	102232444	1,749	8.51		

Prep Amount:	5.142 g	**Dilution:**	1.0
Prep Final Vol:	25 ml	**Unit Factor:**	0.001
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

: Undetected at or above MDL
: Analyte detected above MDL, but below MRL
: Hit above MRL also found in Method Blank
: Analyte concentration above high point of ICAL
: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000105.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:37:44
Operator : MH
Sample : KWG1110804-3 LCS
Misc :
ALS Vial : 24 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:58 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.861	159535316	1817.705	ug/L
2) T	Acetaldehyde	7.921	102232444	1749.462	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L

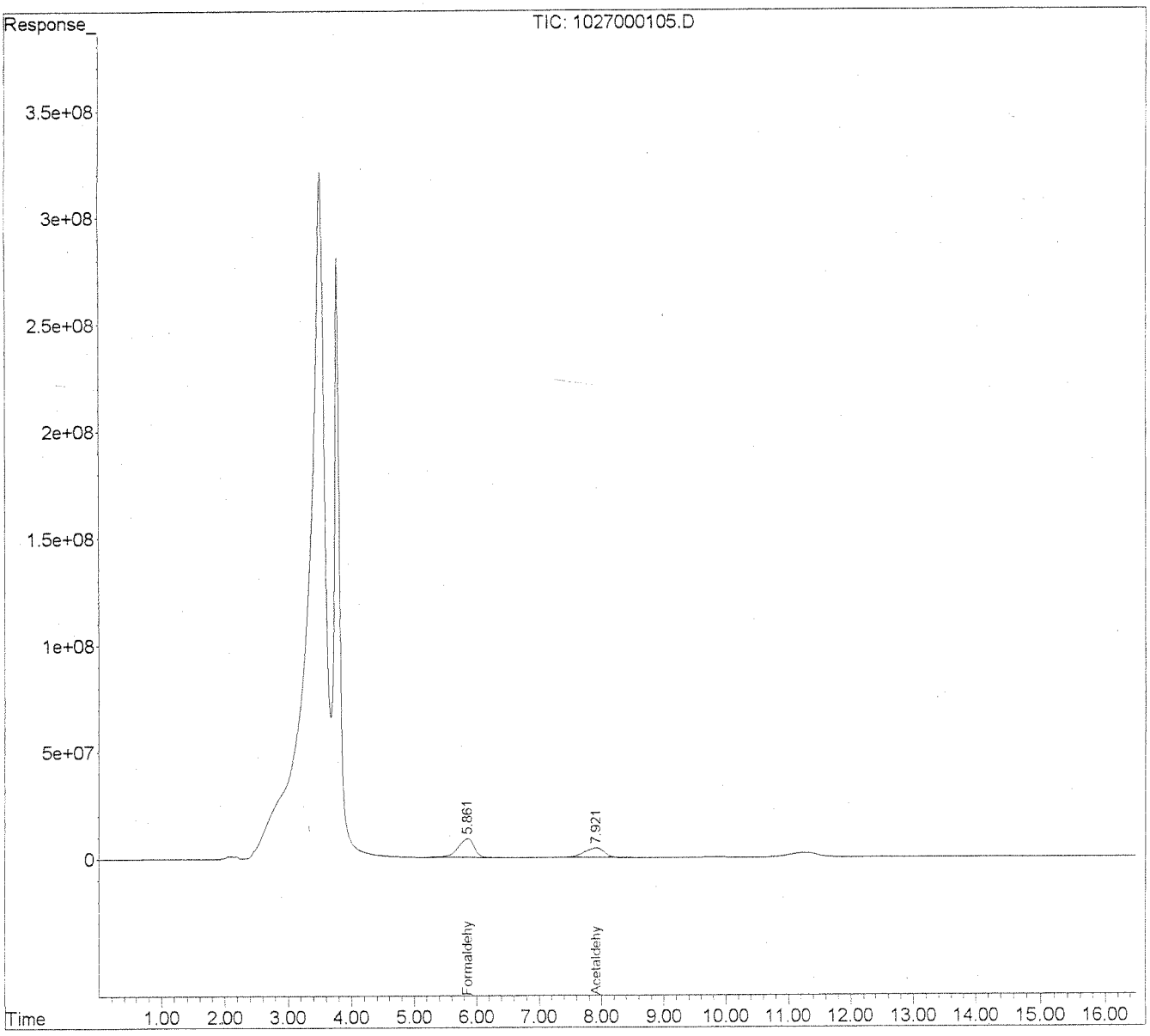
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000105.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:37:44
Operator : MH
Sample : KWG1110804-3 LCS
Misc :
ALS Vial : 24 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:58 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Prepared:	10/25/2011

Extraction Method Specified in Analytical Method
Carbonyls by High Performance Liquid Chromatography

Sample Name:	Duplicate Lab Control Sample	**Units:**	mg/Kg
Lab Code:	KWG1110804-4	**Basis:**	Dry
Preparation Method:	METHOD	**Level:**	Low
Extraction Method:	METHOD		
Analysis Method:	8315A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Formaldehyde	**8.44**		2.0	0.60	1	10/26/11	10/27/11	KWG1110804	

Comments:

Exception Report

Data File: J:\LC10\DATA\102711AH\1027000106.D
Lab ID: KWG1110804-4
RunType: DLCS
Matrix: SOIL

Date Acquired: 10/27/2011 10:54
Date Quantitated: 10/28/2011 08:59
Batch ID: KWG1110982
Analysis Method: 8315A
MethodJoinID: MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
CAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: AV 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000106.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 10:54	**Quant Date:**	10/28/2011 08:59	**Vial:**	25
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1110804-4			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/26/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	KWG1110804	**Report Group:**	
Analysis Method:	8315A	**Prep Method:**	METHOD	**Pre-Prep Meth:**	METHOD
Prep Ref:	1069747	**Prep Date:**	10/26/2011	**Pre-Prep Date:**	10/25/2011

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:		**Method ID:**	MJ396
MB Ref:	J:\LC10\DATA\102711AH\1027000104.D	**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.87	-0.02	152330787	1,736	8.44		
Acetaldehyde	7.94	-0.01	96742710	1,656	8.05		

Prep Amount:	5.142 g	**Dilution:**	1.0
Prep Final Vol:	25 ml	**Unit Factor:**	0.001
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

: Undetected at or above MDL
Analyte detected above MDL, but below MRL
: Hit above MRL also found in Method Blank
Analyte concentration above high point of ICAL
: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000106.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:54:38
Operator : MH
Sample : KWG1110804-4 DLCS
Misc :
ALS Vial : 25 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:59:37 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

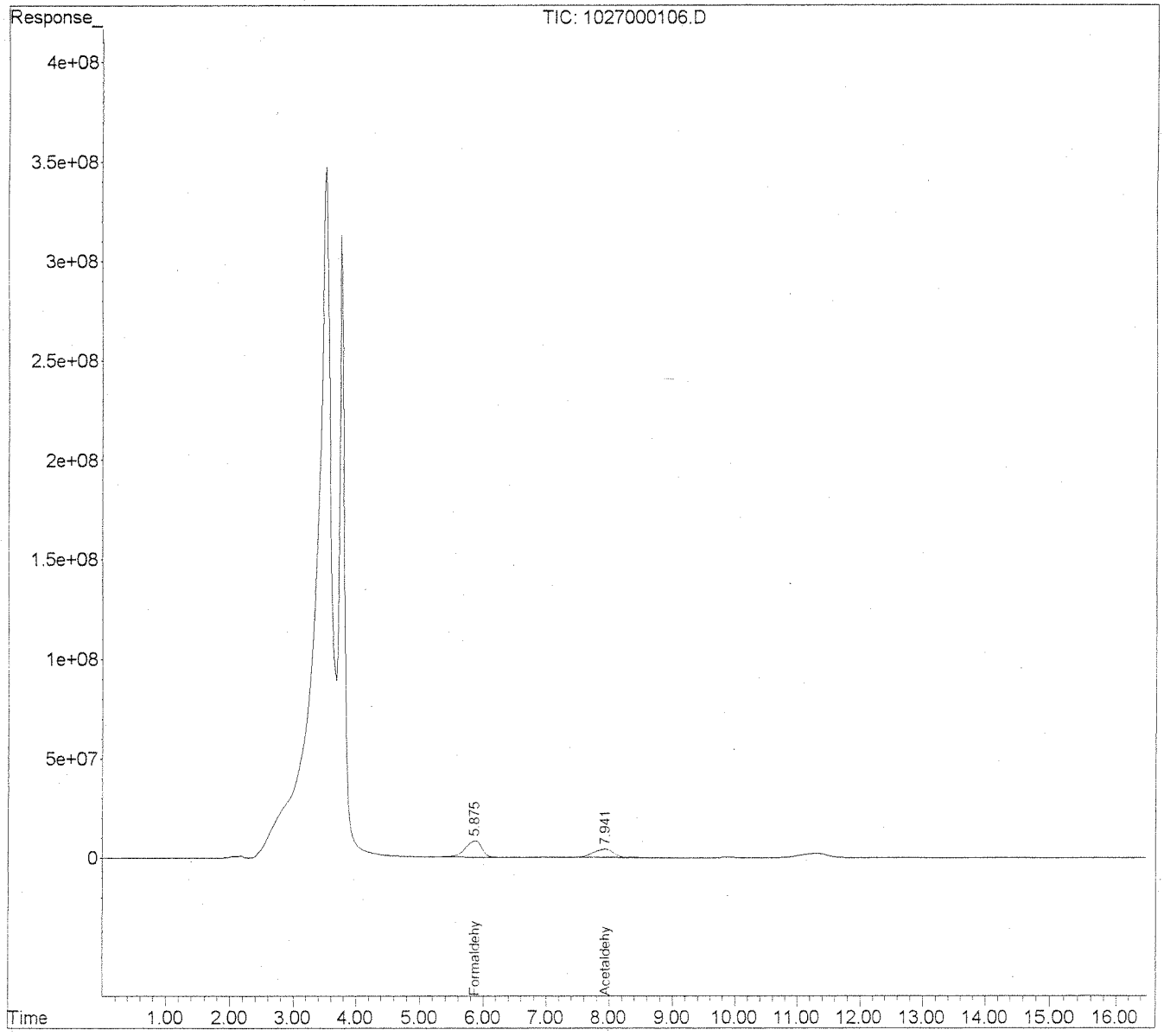
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.875	152330787	1735.619	ug/L
2) T	Acetaldehyde	7.941	96742710	1655.519	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000106.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:54:38
Operator : MH
Sample : KWG1110804-4 DLCS
Misc :
ALS Vial : 25 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:59:37 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Exception Report

Data File:	J:\LC10\DATA\102711AH\1027000107.D	Date Acquired:	10/27/2011 11:11
Lab ID:	KWG1110804-6	Date Quantitated:	10/28/2011 08:59
RunType:	BS	Batch ID:	KWG1110982
Matrix:	SOIL	Analysis Method:	8315A
		MethodJoinID:	MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: AH 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000107.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 11:11	**Quant Date:**	10/28/2011 08:59	**Vial:**	26
Run Type:	BS			**Dilution:**	1.0
Lab ID:	KWG1110804-6			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/26/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	KWG1110804	**Report Group:**	
Analysis Method:	8315A	**Prep Method:**	METHOD	**Pre-Prep Meth:**	METHOD
		Prep Date:	10/26/2011	**Pre-Prep Date:**	10/25/2011
Prep Ref:	1069749				

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:	J:\LC10\DATA\102711AH\1027000104.D	**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.87	-0.02	33151382	377.72	1.84	J	
Acetaldehyde	7.94	-0.01	19104939	326.94	1.59	J	

Prep Amount:	5.142 g	**Dilution:**	1.0
Prep Final Vol:	25 ml	**Unit Factor:**	0.001
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

: Undetected at or above MDL
Analyte detected above MDL, but below MRL
: Hit above MRL also found in Method Blank
Analyte concentration above high point of ICAL
: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000107.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 11:11:30
Operator : MH
Sample : KWG1110804-6 LOQ
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:59:55 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.874	33151382	377.719	ug/L
2) T	Acetaldehyde	7.941	19104939	326.935	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L d

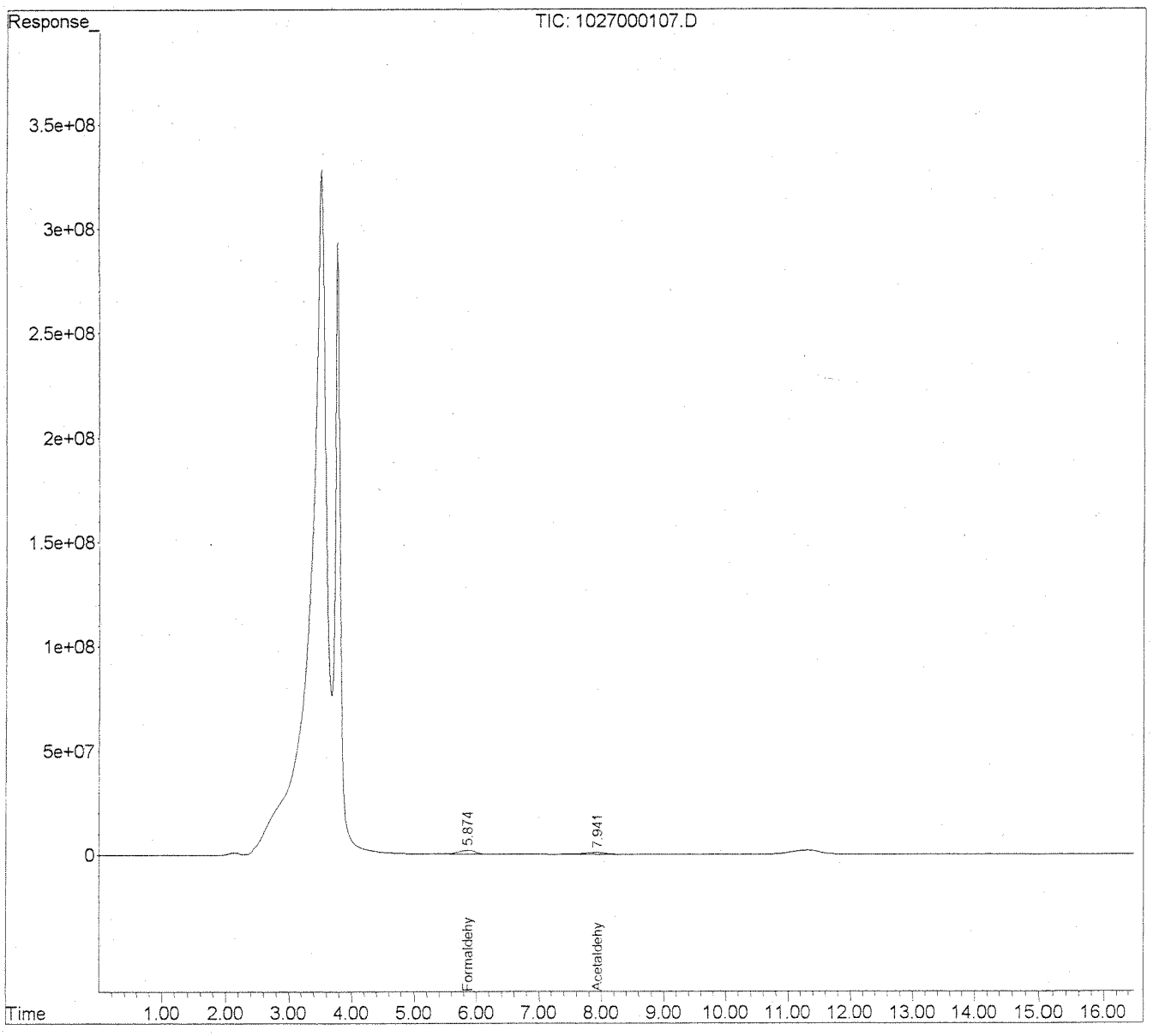
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000107.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 11:11:30
Operator : MH
Sample : KWG1110804-6 LOQ
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:59:55 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Organic Analysis:
Carbonyls by High Performance Liquid Chromatography
Validation Package

Standards Data

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Calibration Date: 08/05/2011

Initial Calibration Summary
Carbonyls by High Performance Liquid Chromatography

Calibration ID: CAL10751
Instrument ID: LC10

Column: 100x3.2mm 3u

Level ID	File ID
A	J:\LC07\Data\080511AH\0805000303.D
B	J:\LC07\Data\080511AH\0805000305.D
C	J:\LC07\Data\080511AH\0805000306.D
D	J:\LC07\Data\080511AH\0805000307.D
E	J:\LC07\Data\080511AH\0805000308.D
F	J:\LC07\Data\080511AH\0805000309.D
G	J:\LC07\Data\080511AH\0805000310.D
H	J:\LC08\Data\080511AH\0805000304.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Formaldehyde	A	100	83200	B	400	91000	C	1000	88300	D	2000	90600	E	5000	91200
	F	10000	91200	G	20000	87700	H	200	78900						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Calibration Date: 08/05/2011

Initial Calibration Summary
Carbonyls by High Performance Liquid Chromatography

Calibration ID: CAL10751
Instrument ID: LC10

Column: 100x3.2mm 3u

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Formaldehyde	MS	AverageRF	% RSD	5.1		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Calibration Date: 08/05/2011
Date Analyzed: 08/05/2011

Second Source Calibration Verification
Carbonyls by High Performance Liquid Chromatography

Calibration Type: External Standard
Analysis Method: 8315A

Calibration ID: CAL10751
Units: ug/L

File ID: J:\LC07\Data\080511AH\0805000311.D

Column ID: 100x3.2mm 3u

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Formaldehyde	2000	2200	87800	95000	8	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Date: 8/5/11

By: MH

Stealth ID: NA

Columbia Analytical Services, Inc.
Injection Log
LC08 - Agilent 1260

ICAL Date: 8/5/11

ICAL ID: 10751

LIMS ID: NA

2nd Review: MH 8/19/11

Column: Grace C18, cat#201TP5415, S/N: E100602-4 2

Mobile Phases A: — B: H2O:5109/ C: ACN:5112 D: —

	Sample Name	File Name	Method	Dilution	R	Comments
1	Primer	080500030	8315A.M			
2	IB	2				
3	HCSVG-49J 0.6ppm	3				
4	-49K 0.2	4				
5	-49L 0.4	5				
6	-49M 1	6				
7	-49N 2	7				
8	-49O 5	8				
9	-49P 10	9				
10	-48I 20	10				
11	-49I ICV 4ppm	11				
12	IRB	12				
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

MH 8/5/11

MH 8/5/11

Quantitation Report (QT Reviewed)

Data Path : J:\LC08\Data\080511AH\
Data File : 0805000302.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:24:31
Operator : MH
Sample : IB
Misc :
ALS Vial : 41 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 17:22:38 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 16:12:32 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	0.000	0	N.D.	ug/L
2) T	Acetaldehyde	0.000	0	N.D.	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L

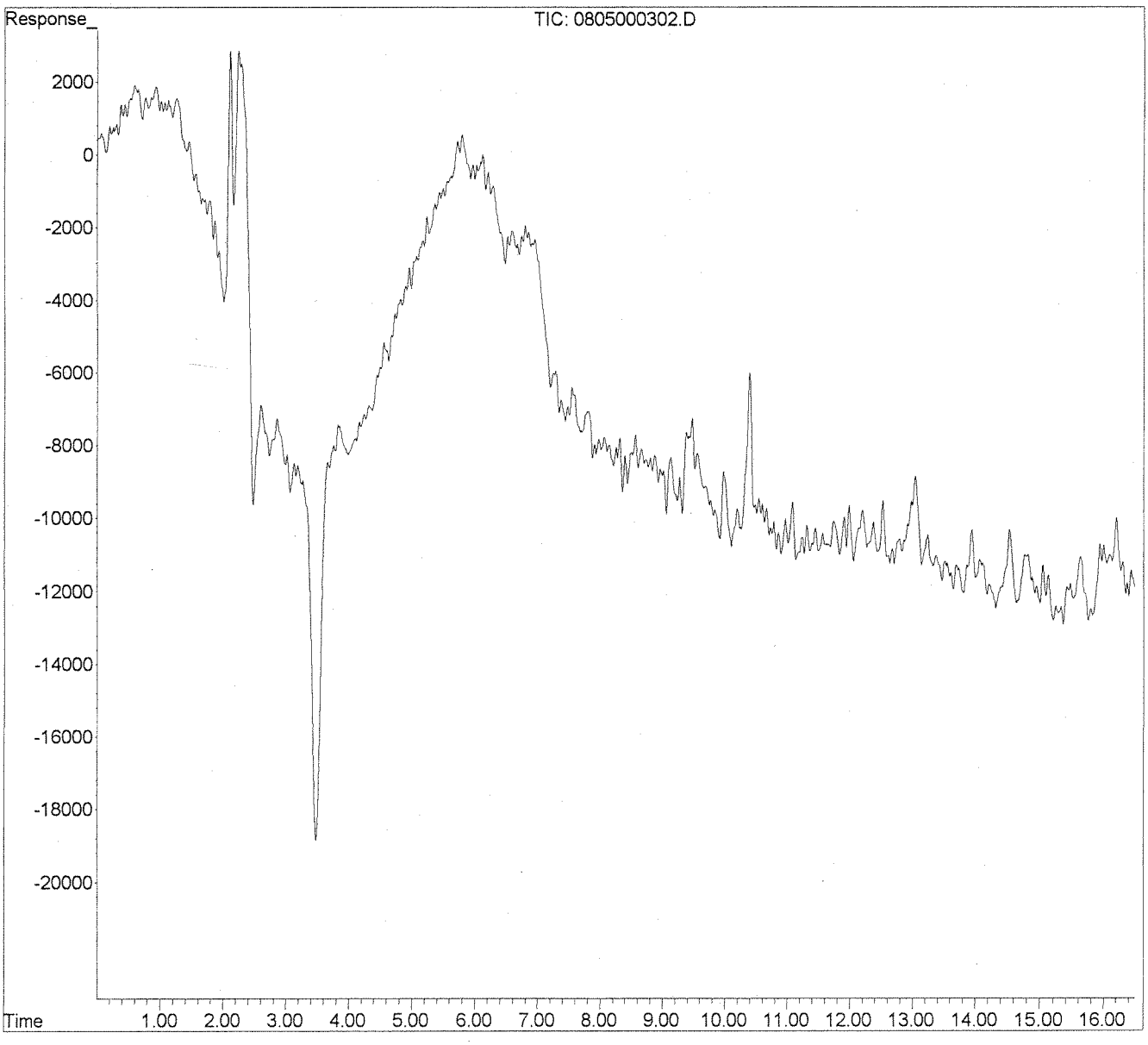
(f)=RT Delta > 1/2 Window (m)=manual int.

MH 8/5/11

Data Path : J:\LC08\Data\080511AH\
Data File : 0805000302.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:24:31
Operator : MH
Sample : IB
Misc :
ALS Vial : 41 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 17:22:38 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 16:12:32 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:04:27 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) T	Formaldehyde	5.768	8322841	97.938 ug/L m
2) T	Acetaldehyde	7.761	5421049	92.985 ug/L m
3) T	Propionaldehyde	12.508	4159336	94.341 ug/L m

(f)=RT Delta > 1/2 Window (m)=manual int.

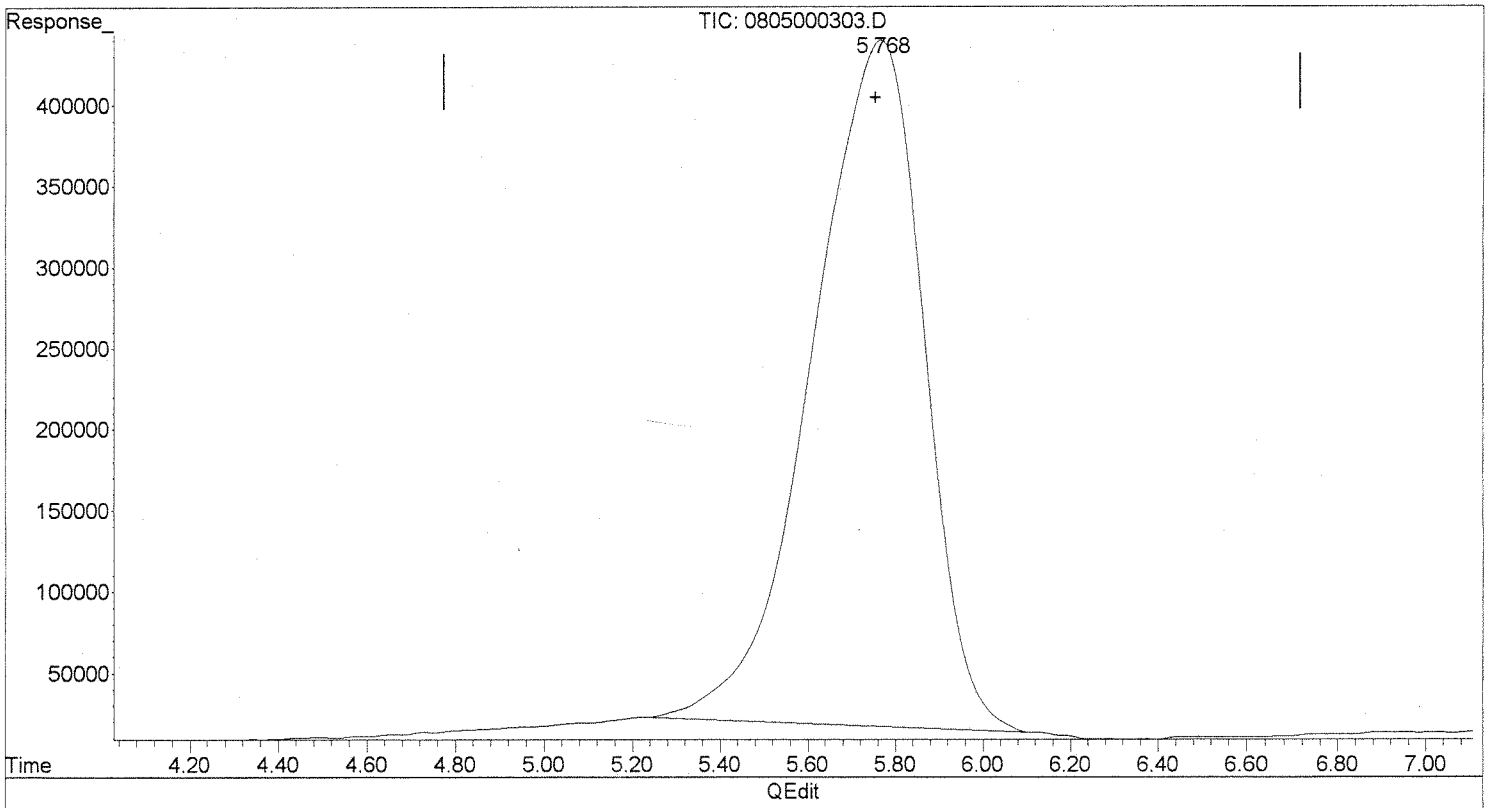
8/5/11

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:51 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(1) Formaldehyde (T)
5.768min 87.778 ug/L
response 7459464

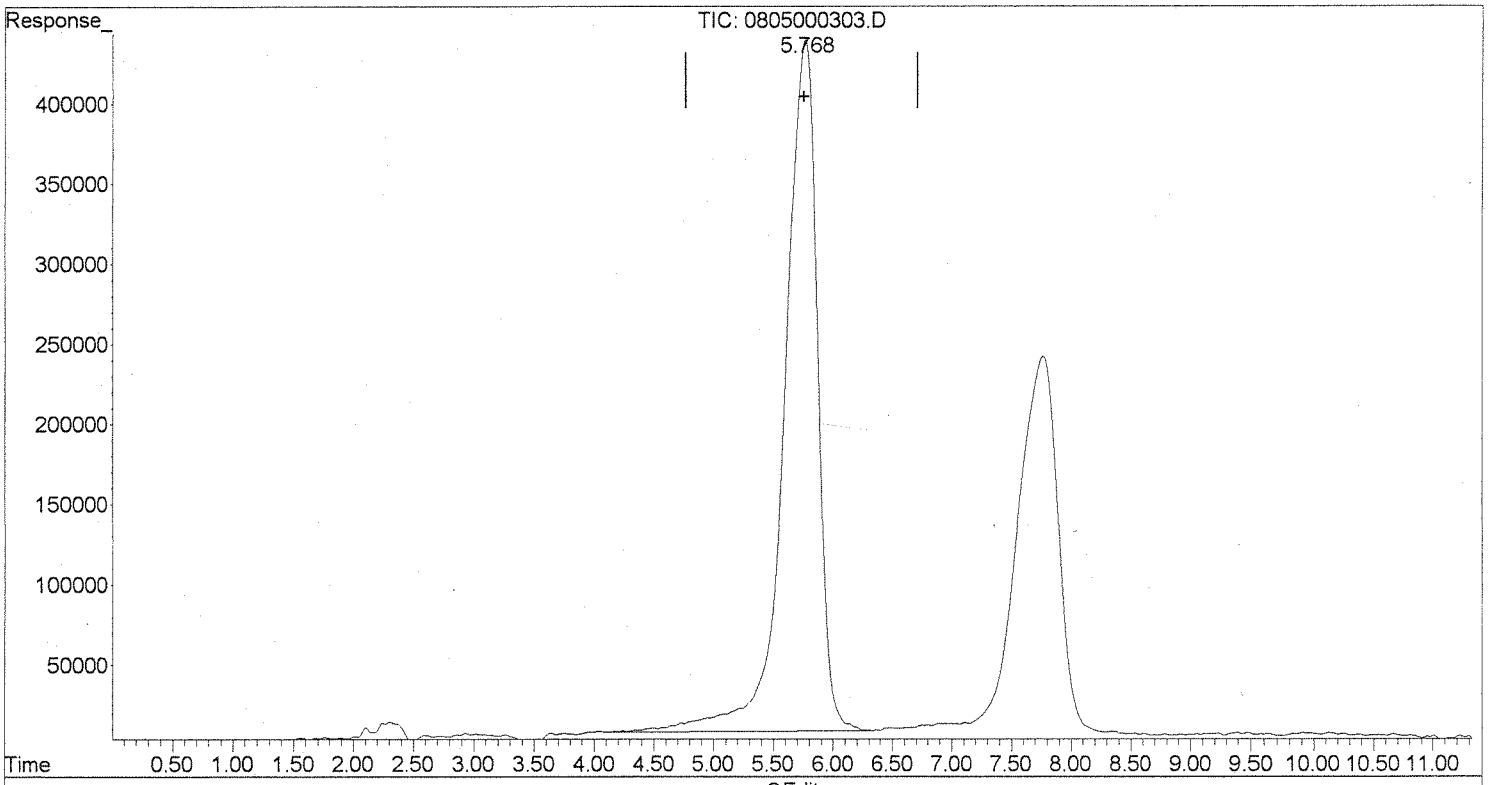
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:51 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(1) Formaldehyde (T)
5.768min 97.938 ug/L m
response 8322841

BC MH 8/5/11

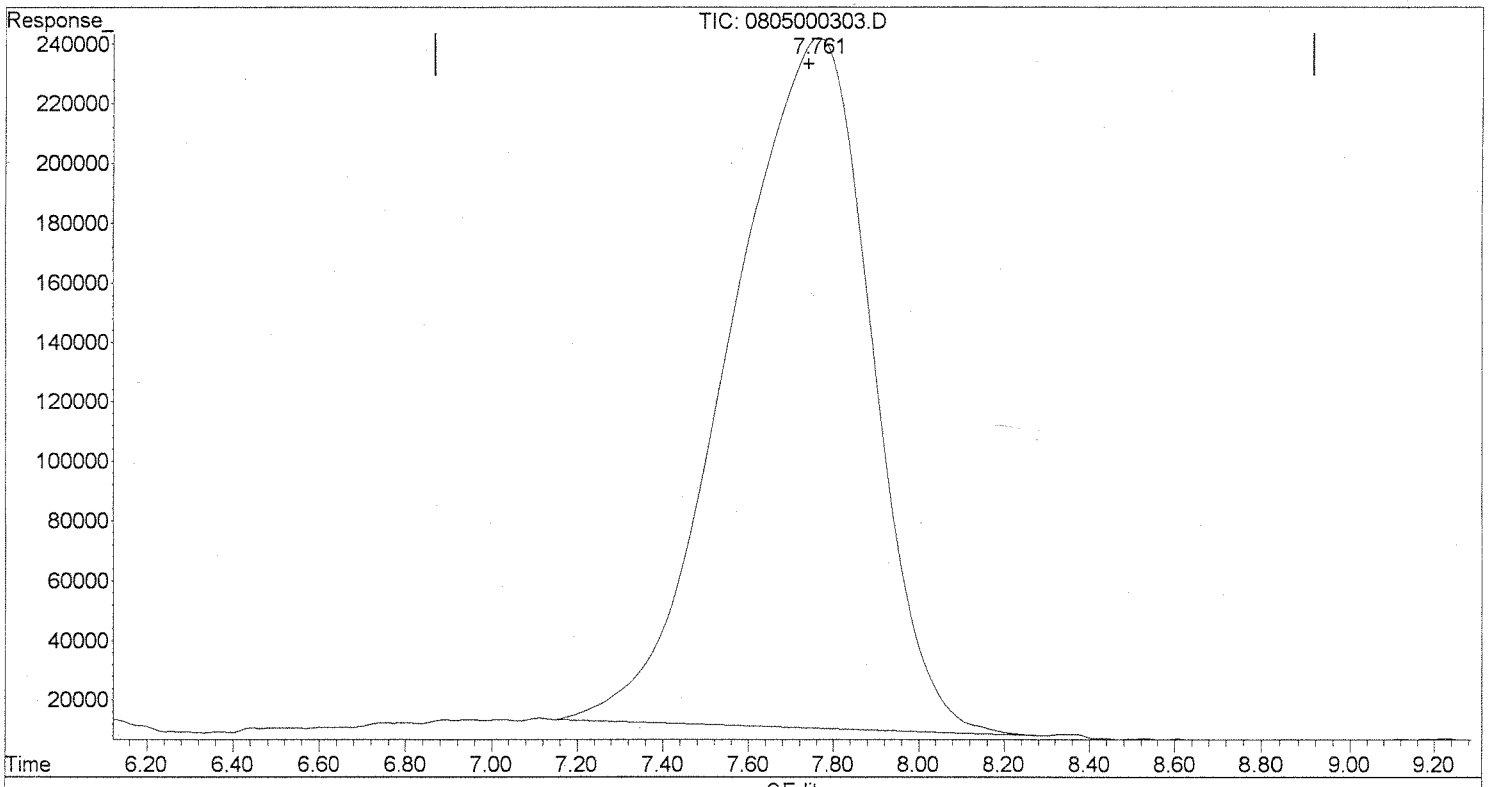
(+) = Expected Retention Time
8315_080511.M Fri Aug 05 16:04:02 2011 Page: 1

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:51 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(2) Acetaldehyde (T)
7.761min 91.089 ug/L
response 5310470

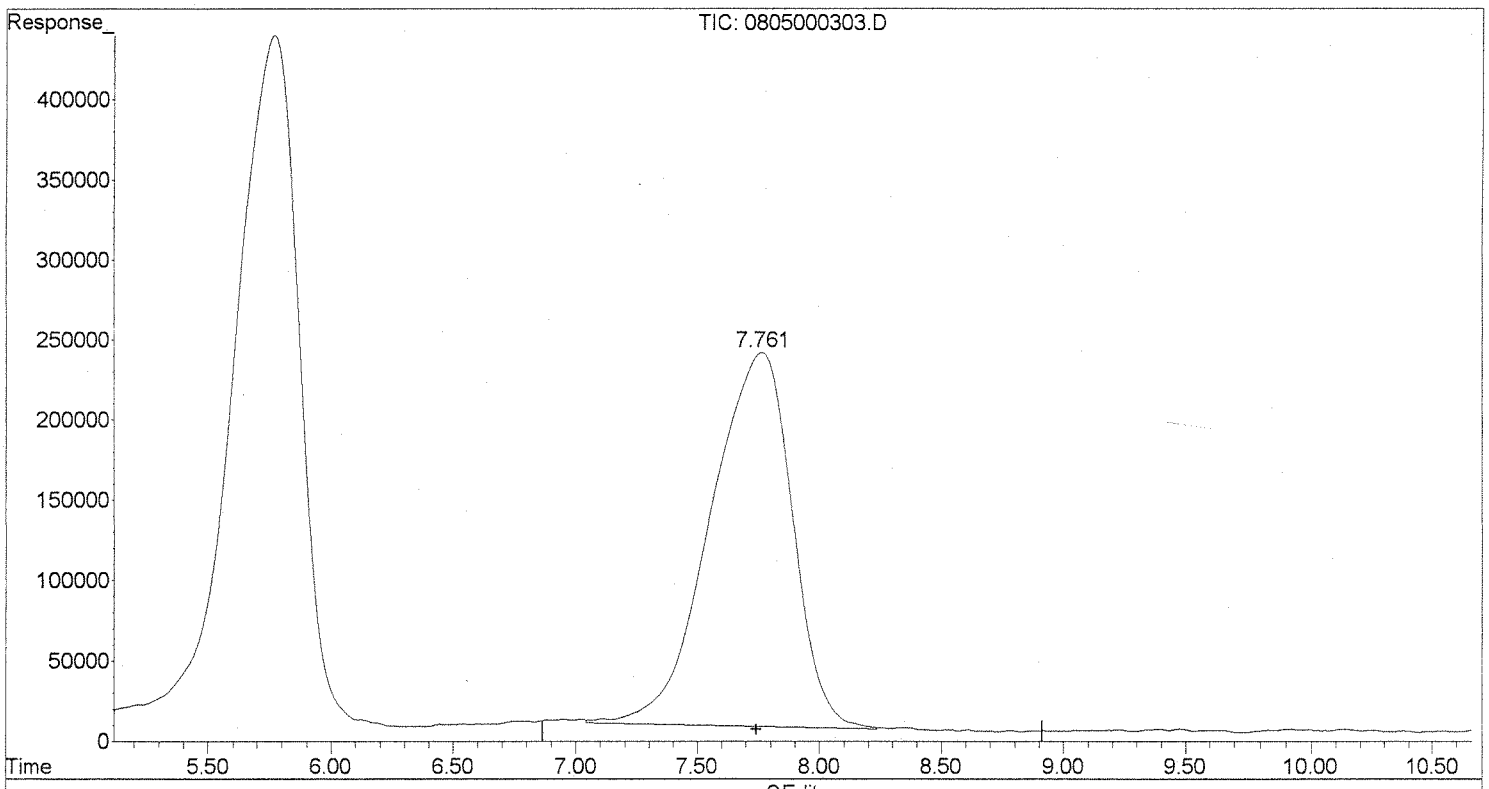
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:51 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(2) Acetaldehyde (T)
7.761min 92.985 ug/L m
response 5421049

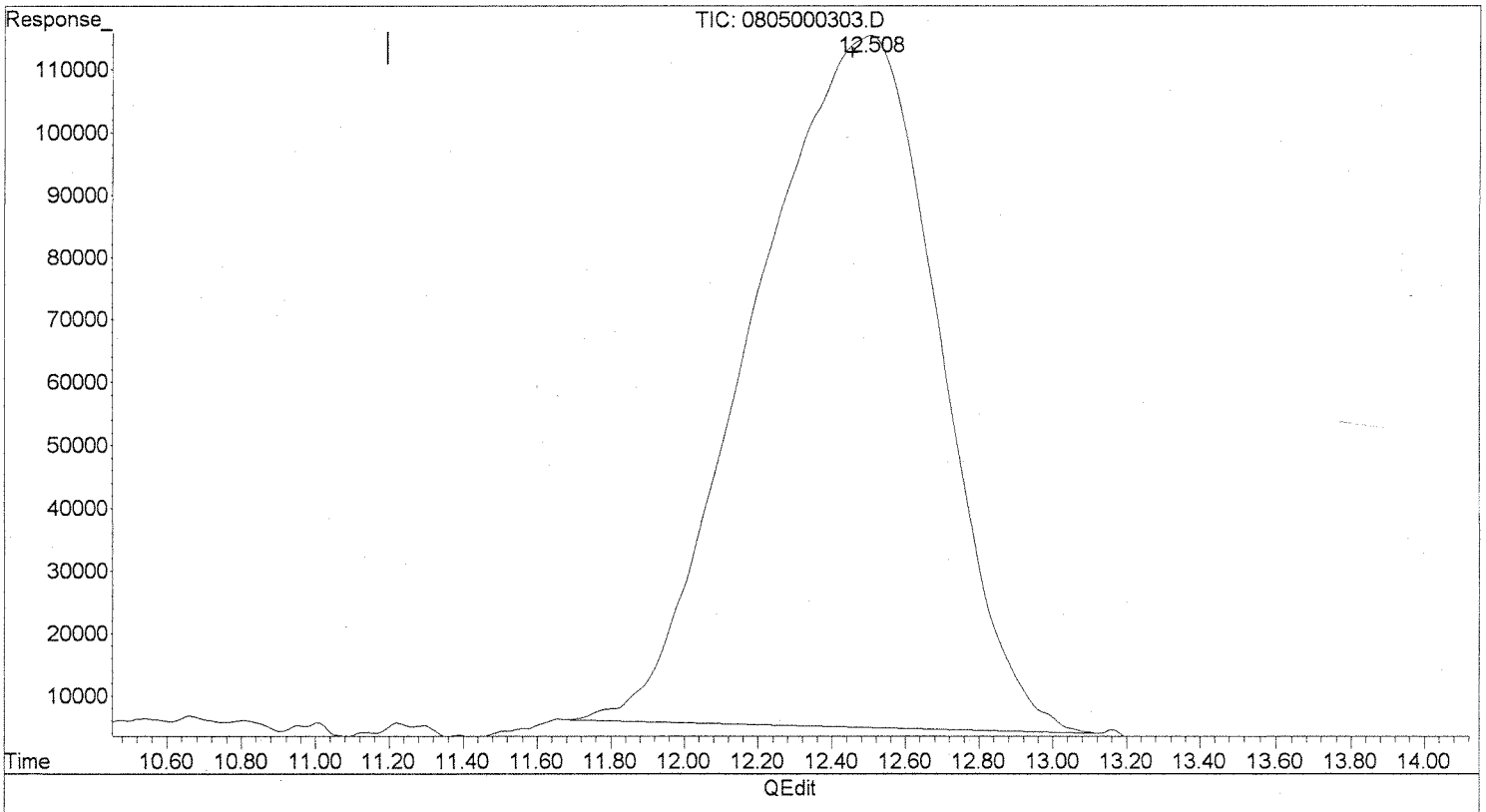
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:51 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(3) Propionaldehyde (T)
12.508min 87.076 ug/L
response 3839044

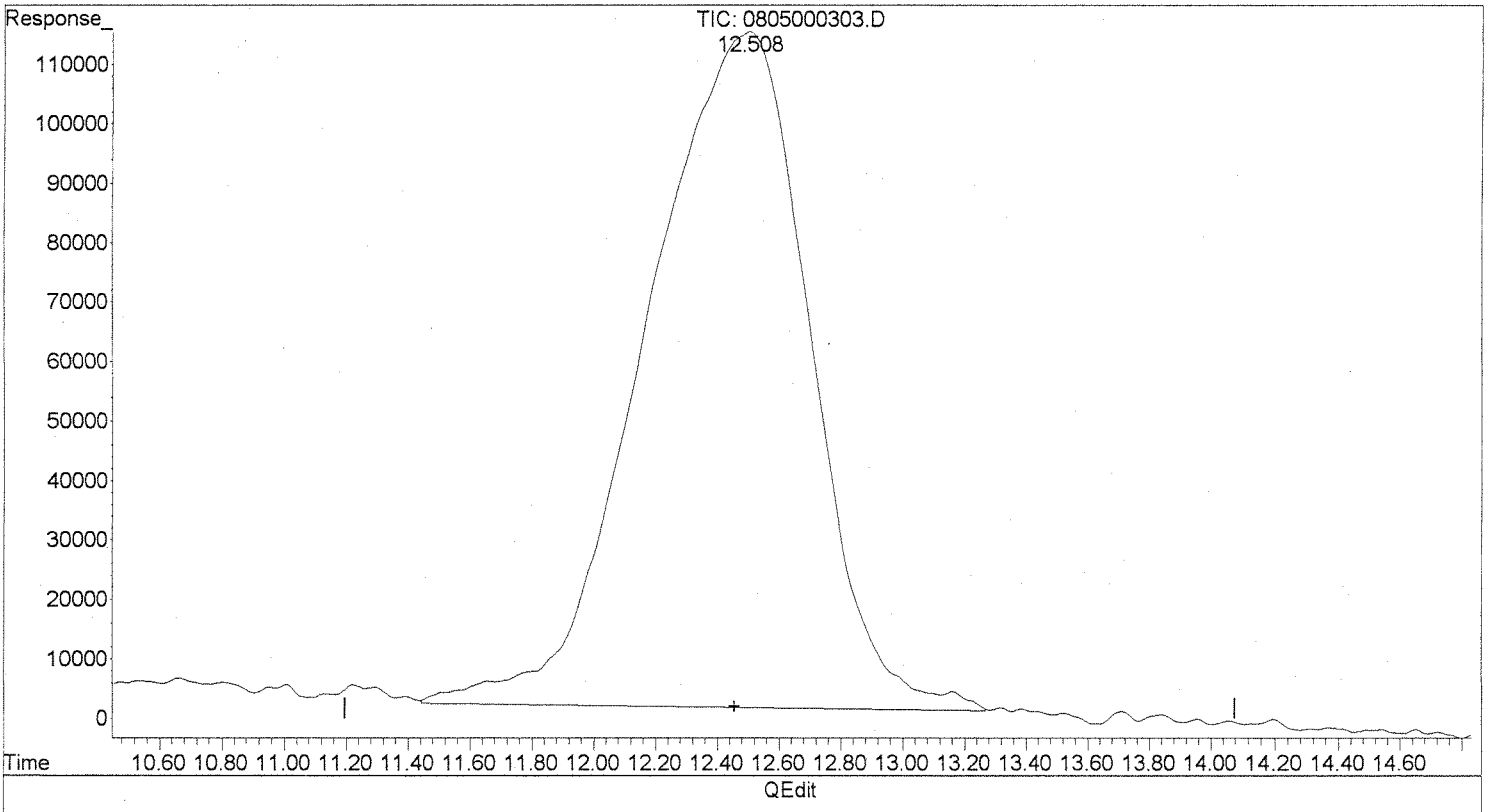
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:51 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(3) Propionaldehyde (T)
12.508min 94.341 ug/L m
response 4159336

BL 8/5/11

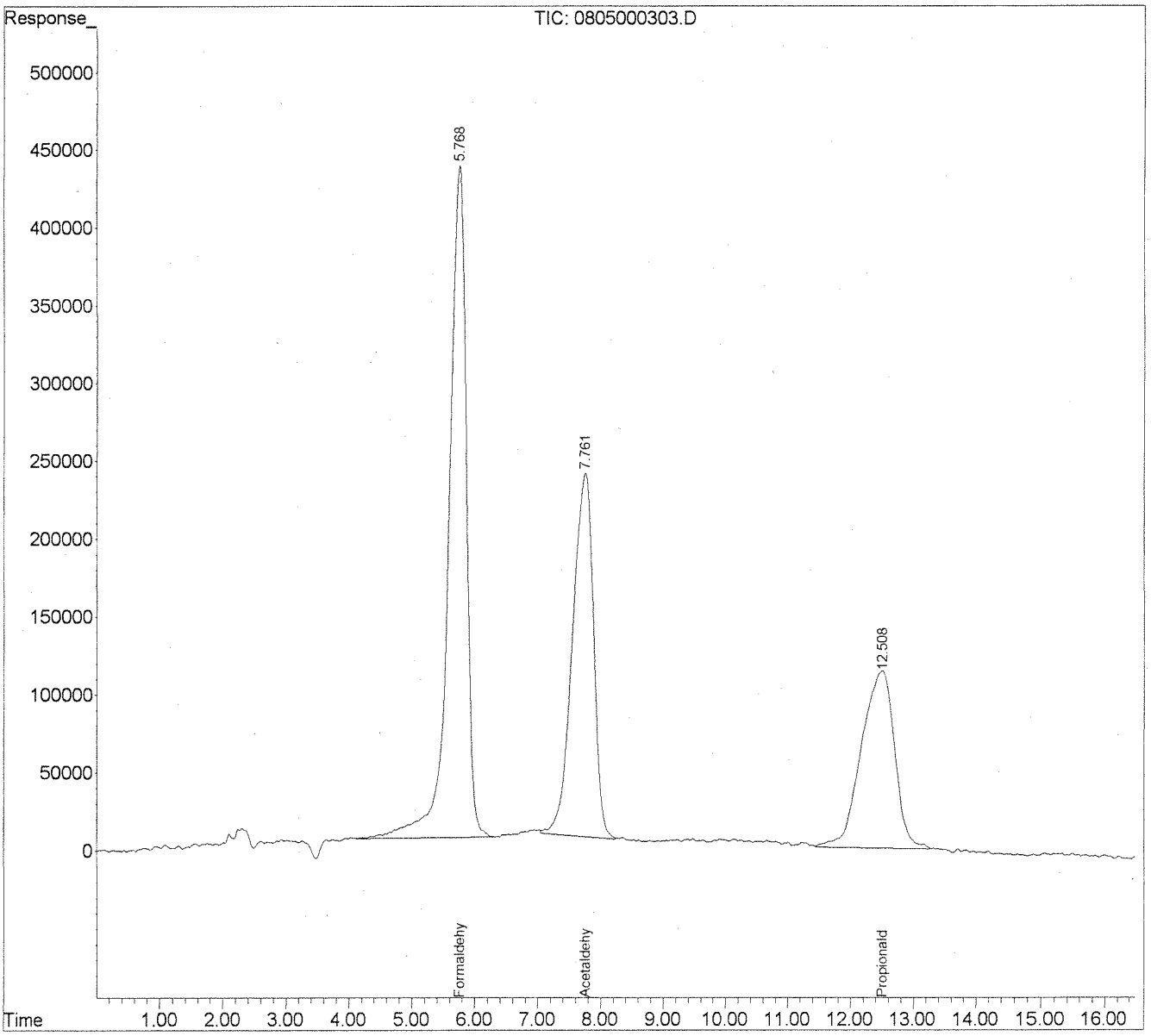
(+) = Expected Retention Time
8315_080511.M Fri Aug 05 16:05:08 2011 Page: 1

Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000303.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:41:21
Operator : MH
Sample : HCSV9-49J 0.1PPM
Misc :
ALS Vial : 42 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:04:27 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC08\Data\080511AH\
Data File : 0805000304.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:58:11
Operator : MH
Sample : HCSV9-49K 0.2PPM
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:09:24 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

Compound	R.T.	Response	Conc Units
Target Compounds			
1) T Formaldehyde	5.762	15772598	185.601 ug/L m
2) T Acetaldehyde	7.749	10550994	180.978 ug/L m
3) T Propionaldehyde	12.462	7753487	175.862 ug/L m

(f)=RT Delta > 1/2 Window (m)=manual int.

8/5/11

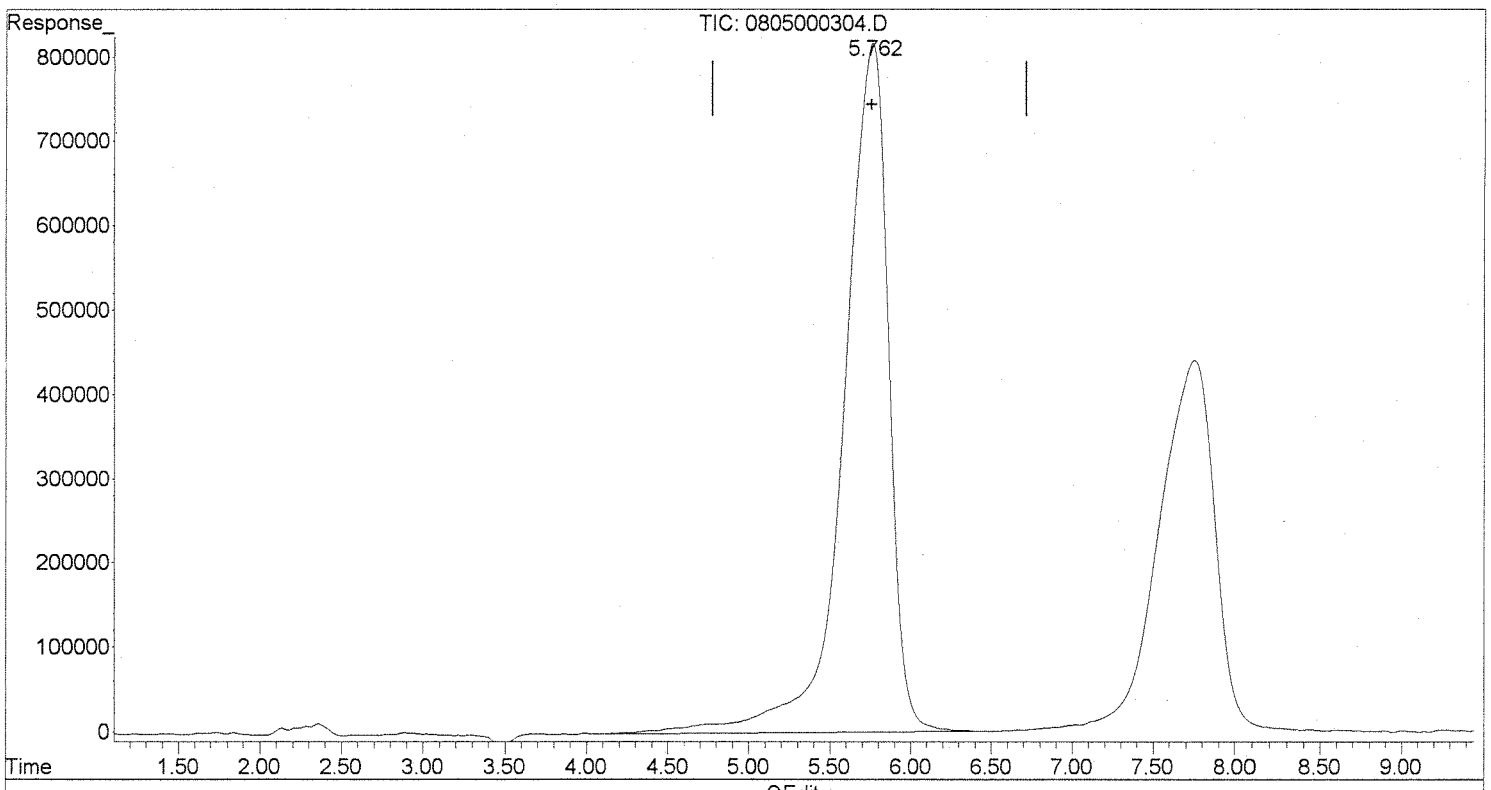
8/9/11

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000304.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:58:11
Operator : MH
Sample : HCSV9-49K 0.2PPM
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:05:56 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(1) Formaldehyde (T)
5.762min 185.601 ug/L m
response 15772598

* Forgot Before BL MM 8/5/11

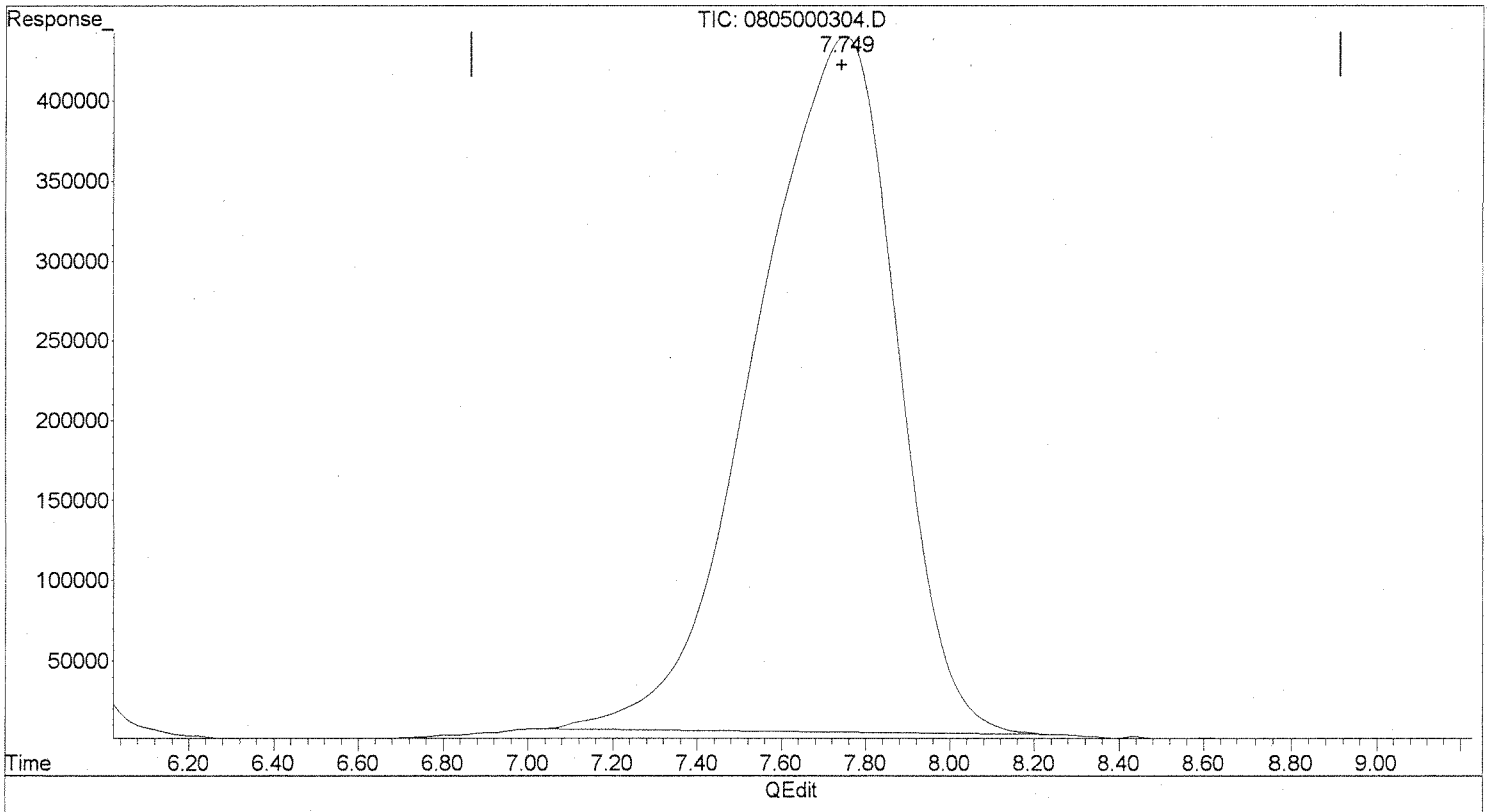
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000304.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:58:11
Operator : MH
Sample : HCSV9-49K 0.2PPM
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:53 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(2) Acetaldehyde (T)
7.749min 172.193 ug/L
response 10038840

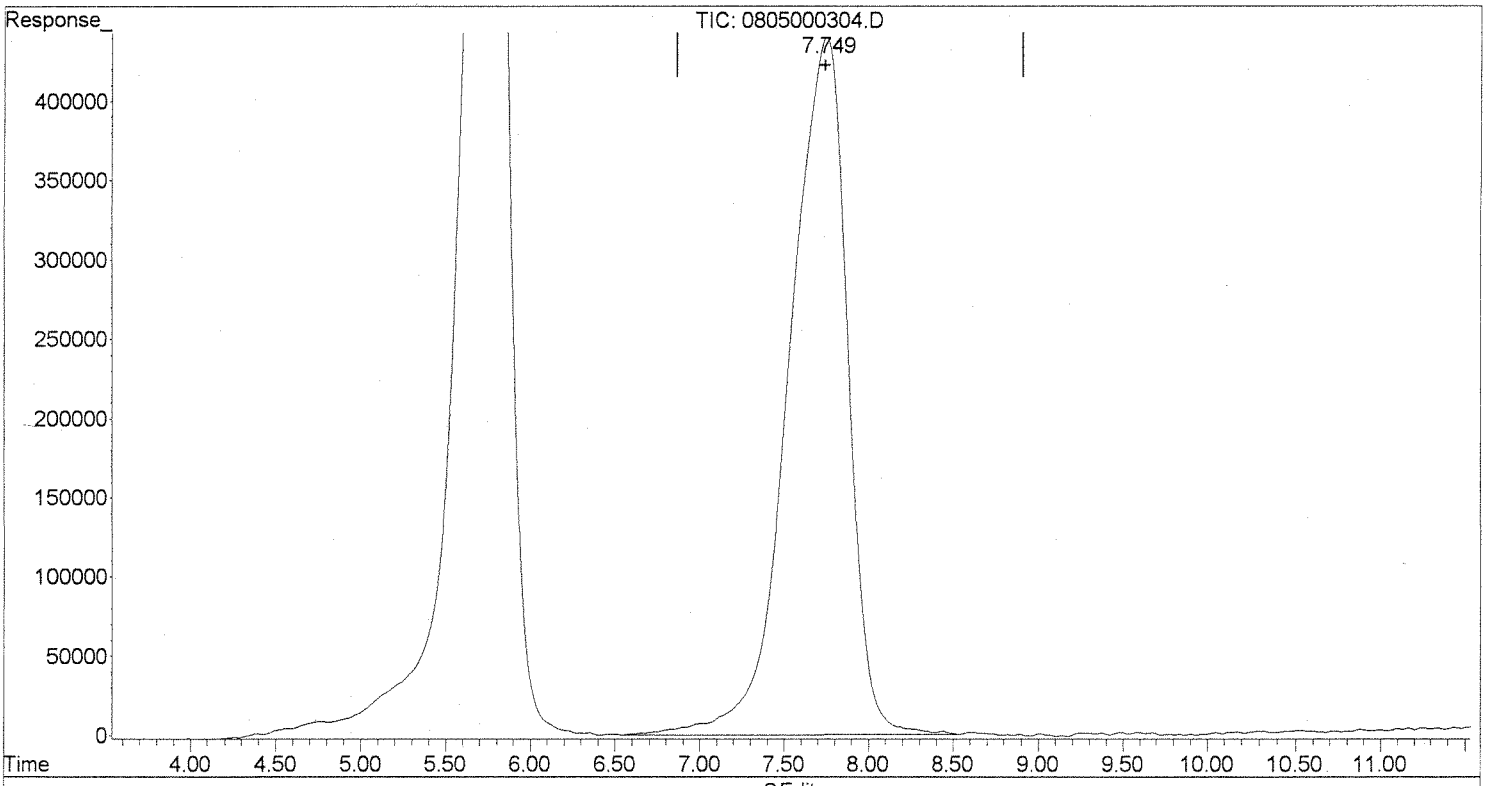
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000304.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:58:11
Operator : MH
Sample : HCSV9-49K 0.2PPM
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:53 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(2) Acetaldehyde (T)
7.749min 180.978 ug/L m
response 10550994

BL MH 8/5/11 XS 8/5/11

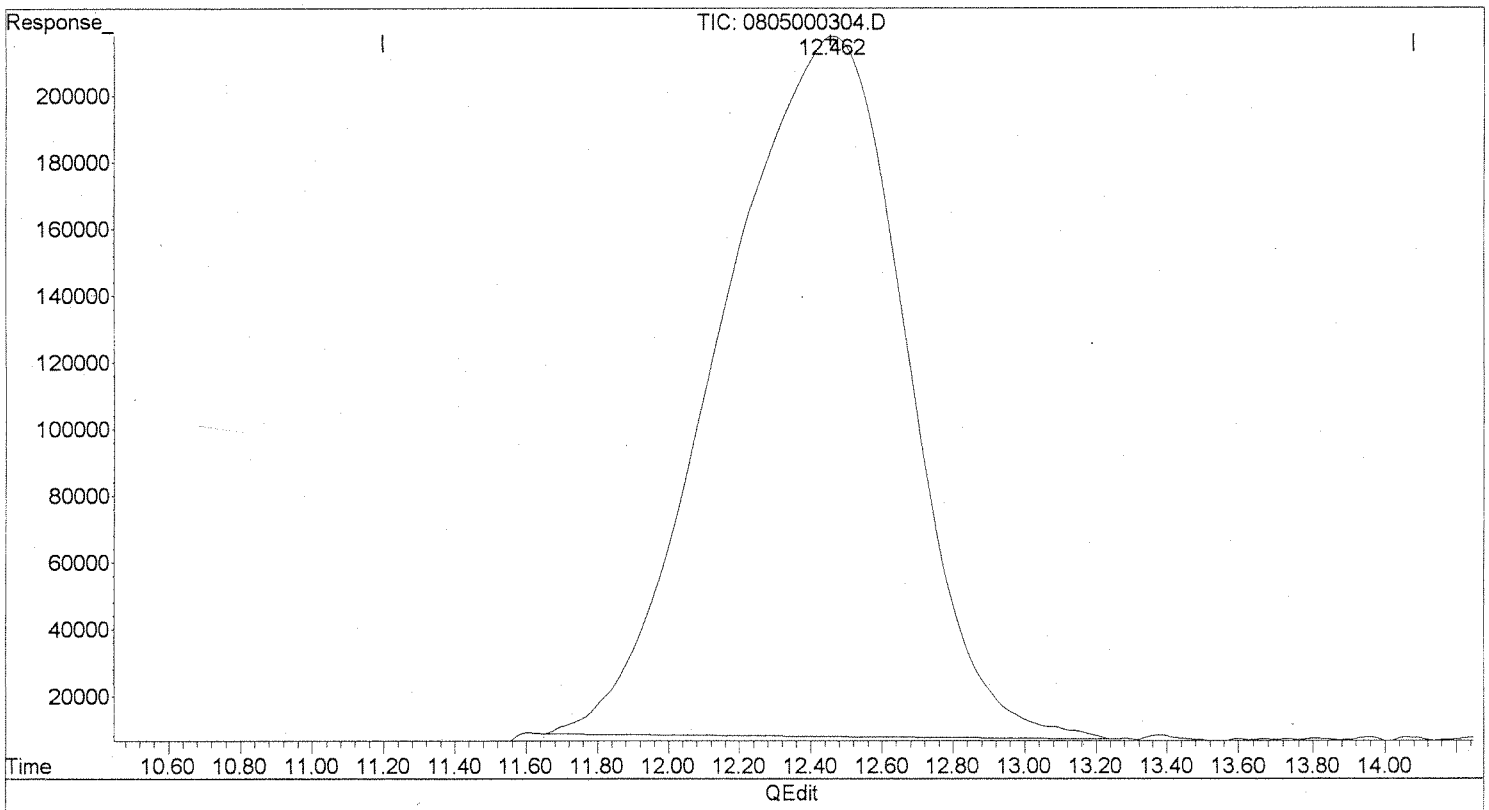
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000304.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:58:11
Operator : MH
Sample : HCSV9-49K 0.2PPM
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:53 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(3) Propionaldehyde (T)
12.462min 170.382 ug/L
response 7511890

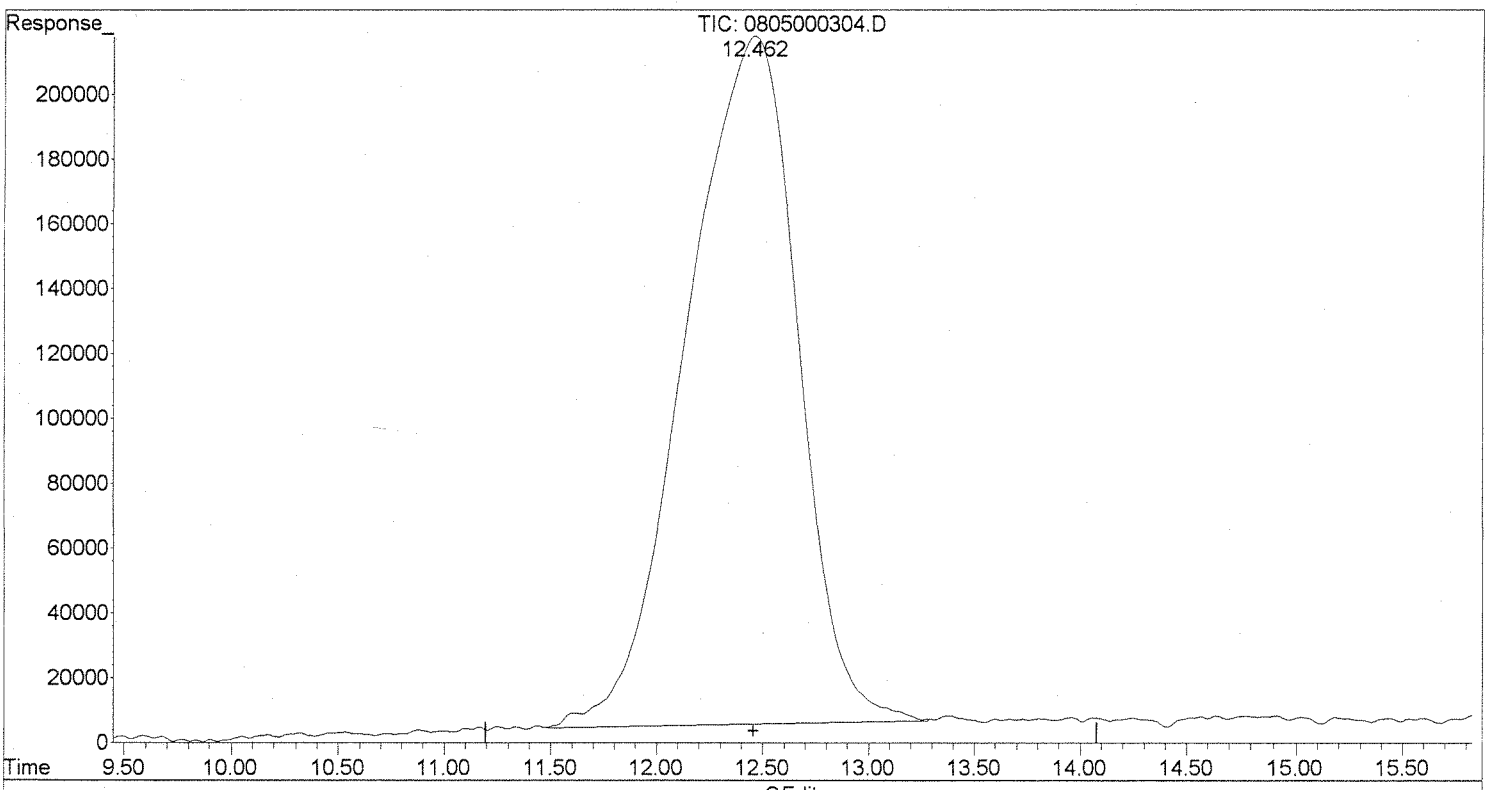
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000304.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:58:11
Operator : MH
Sample : HCSV9-49K 0.2PPM
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:53 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(3) Propionaldehyde (T)
12.462min 175.862 ug/L m
response 7753487

BL 8/5/11

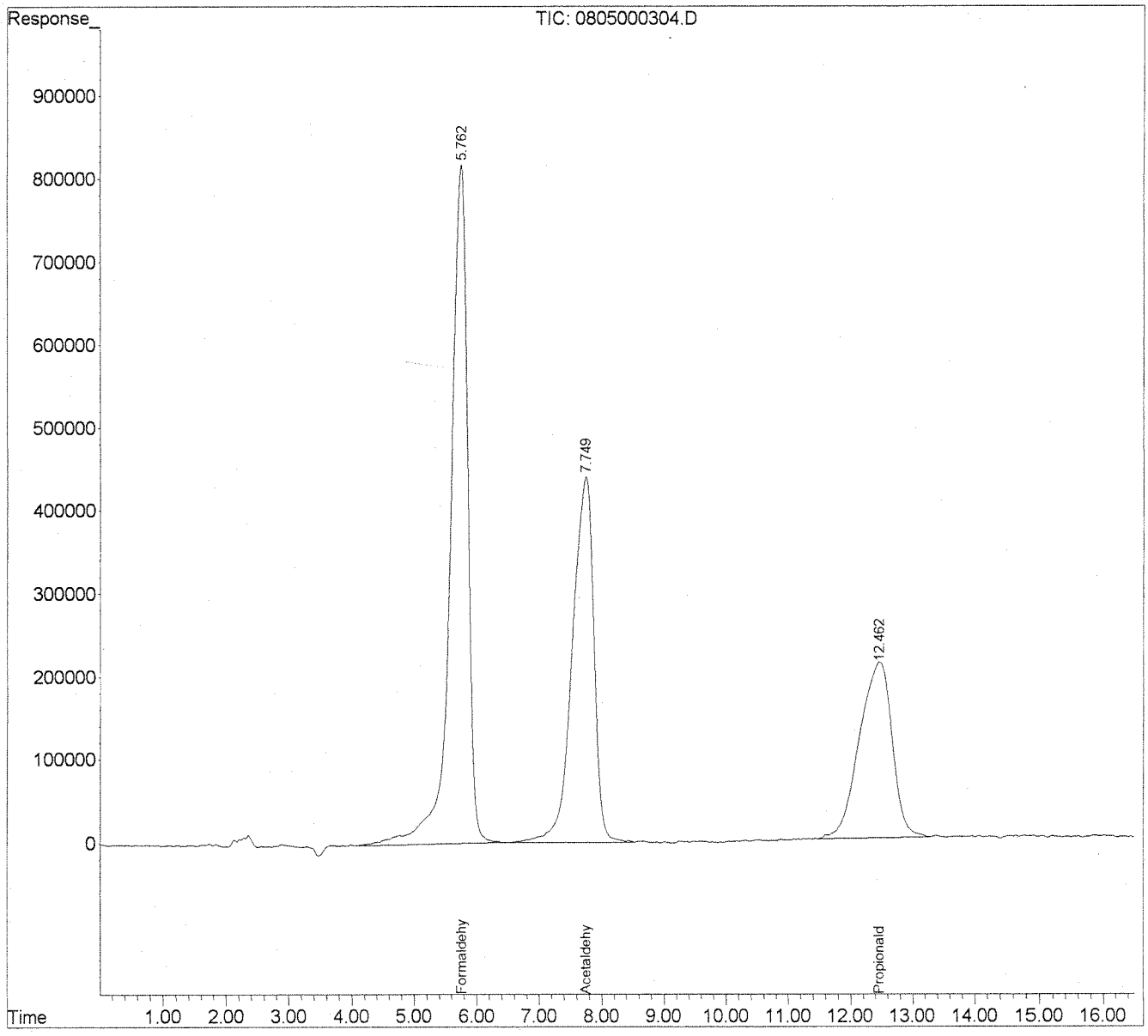
(+) = Expected Retention Time
8315_080511.M Fri Aug 05 16:05:59 2011 Page: 1

Quantitation Report (QT Reviewed)

Data Path : J:\LC08\Data\080511AH\
Data File : 0805000304.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 12:58:11
Operator : MH
Sample : HCSV9-49K 0.2PPM
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:09:24 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000305.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:15:01
Operator : MH
Sample : HCSV9-49L 0.4PPM
Misc :
ALS Vial : 44 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:06:24 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) T	Formaldehyde	5.749	36394897	428.271 ug/L m
2) T	Acetaldehyde	7.735	23960984	410.995 ug/L
3) T	Propionaldehyde	12.449	17835458	404.538 ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

8/5/11

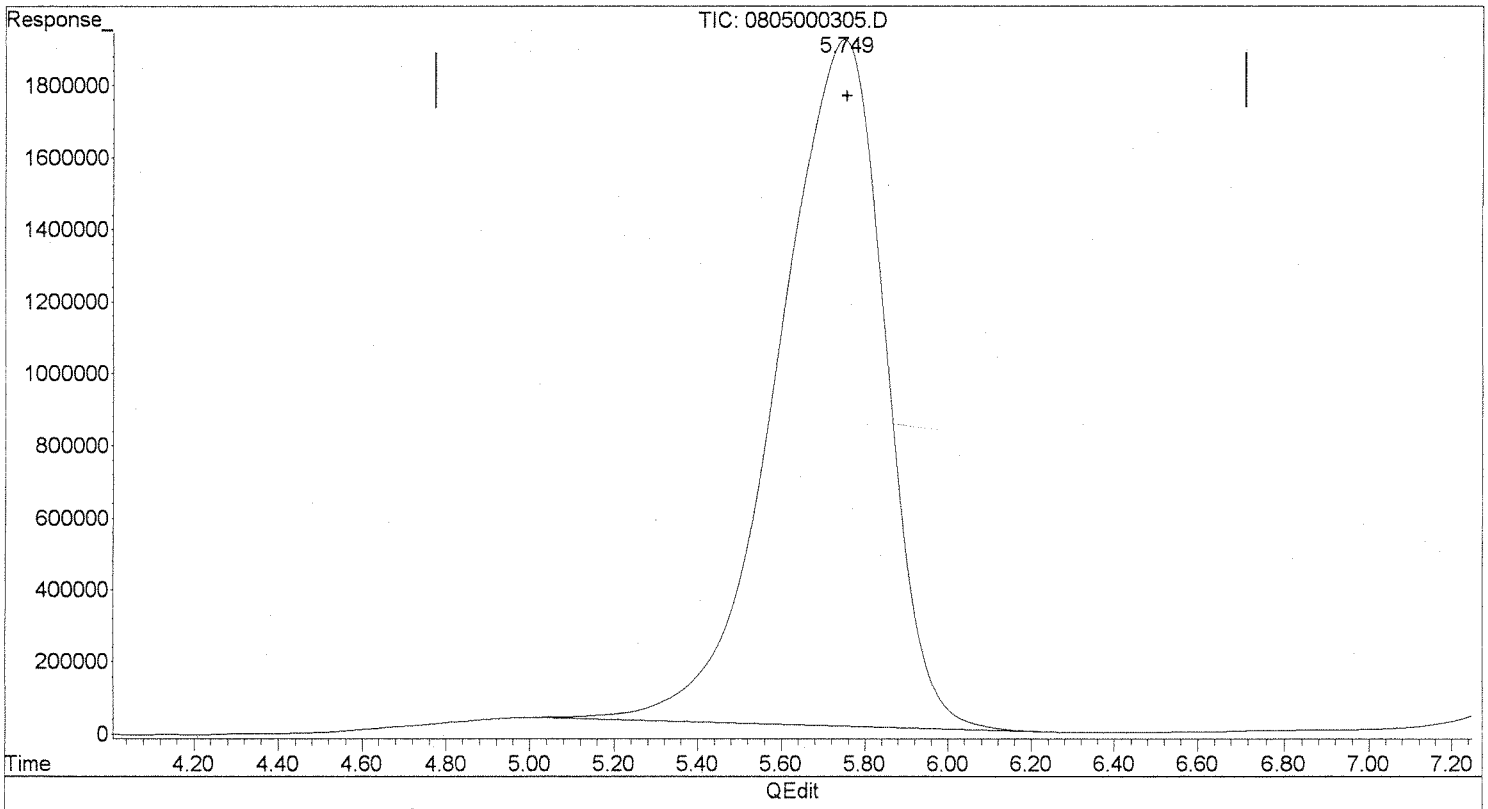
8/5/11

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000305.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:15:01
Operator : MH
Sample : HCSV9-49L 0.4PPM
Misc :
ALS Vial : 44 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:55 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(1) Formaldehyde (T)
5.749min 398.557 ug/L
response 33869800

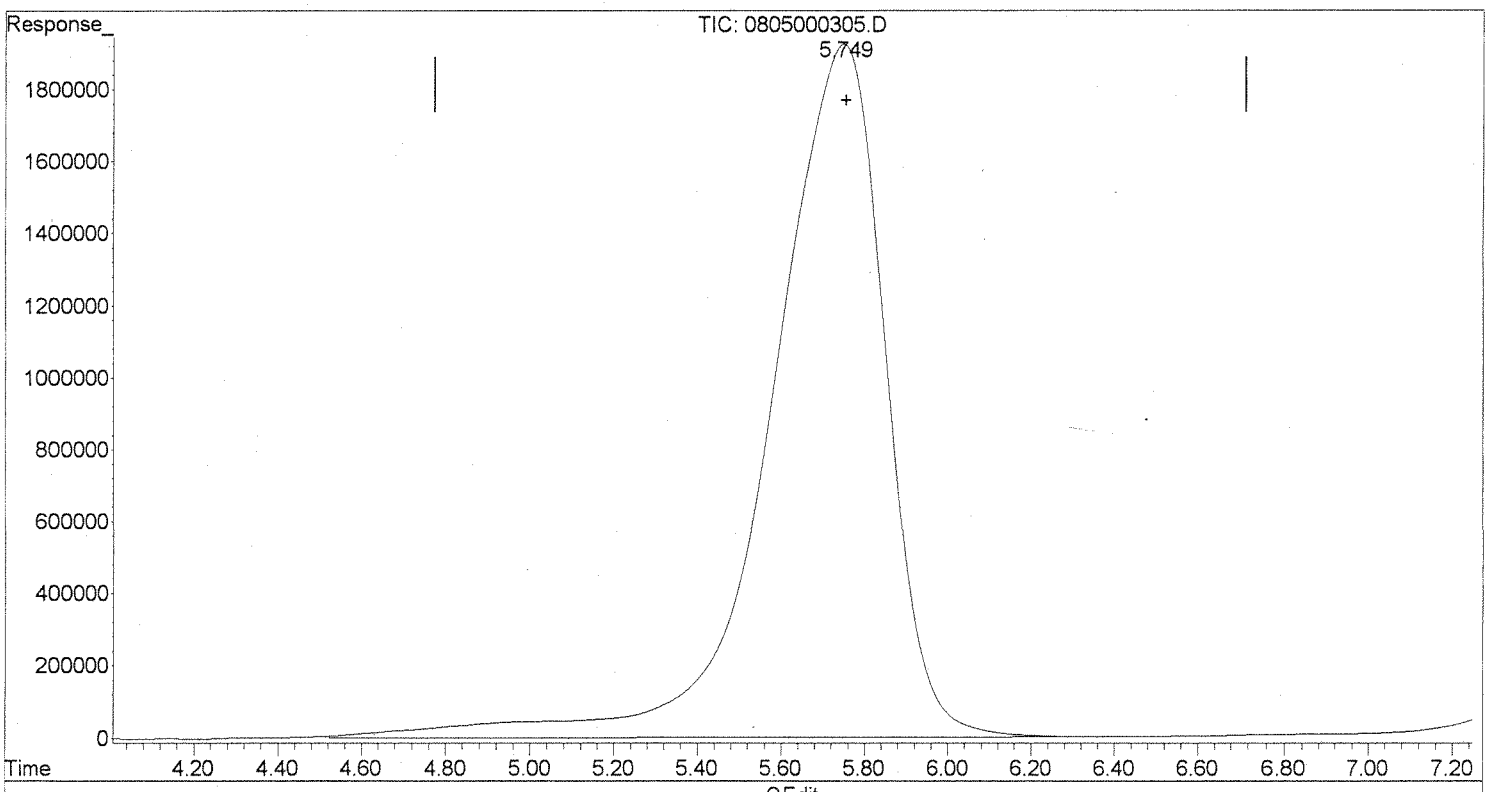
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000305.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:15:01
Operator : MH
Sample : HCSV9-49L 0.4PPM
Misc :
ALS Vial : 44 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:55 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



(1) Formaldehyde (T)
5.749min 428.271 ug/L m
response 36394897

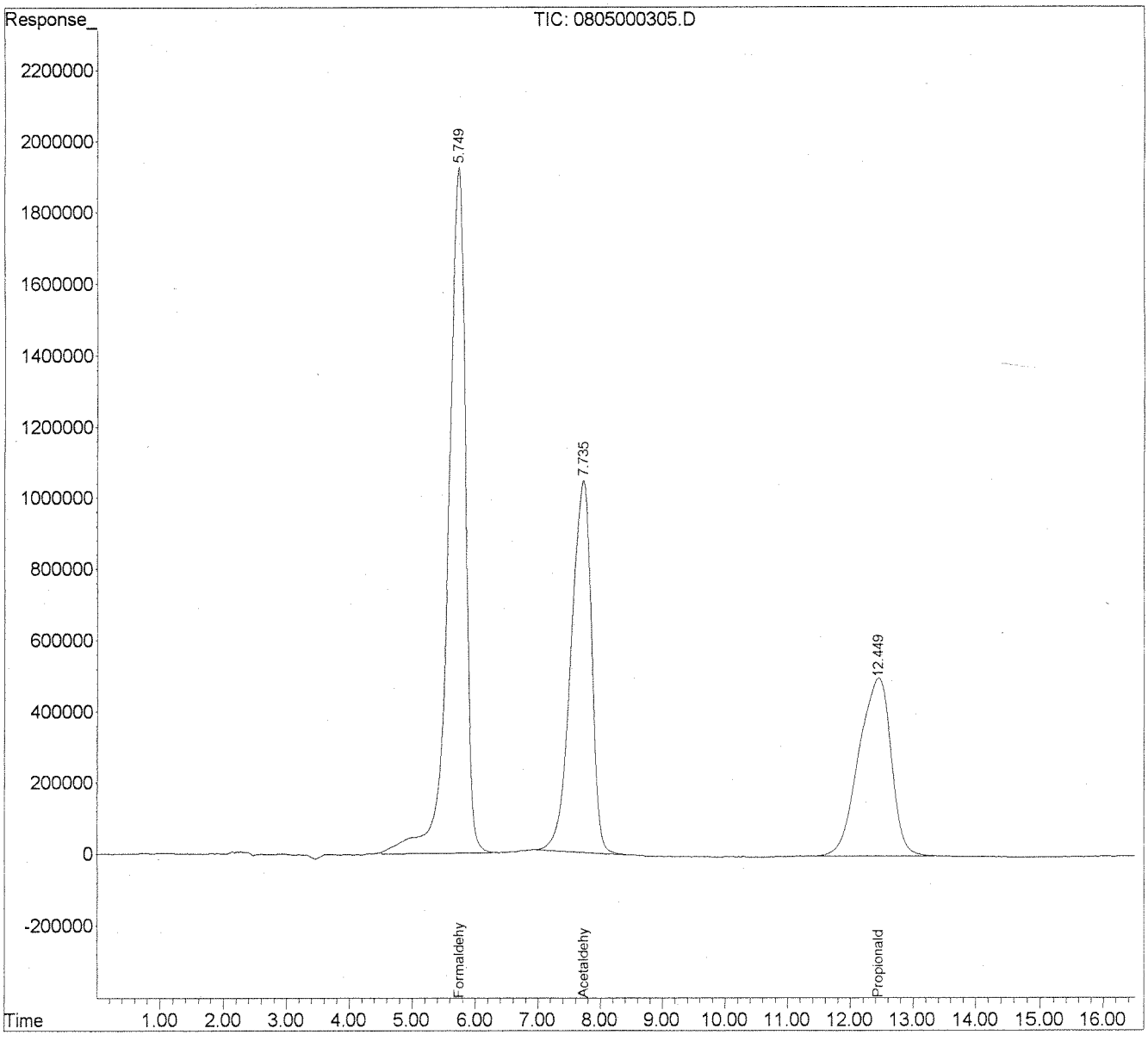
(+) = Expected Retention Time
8315_080511.M Fri Aug 05 16:06:29 2011 Page: 1

Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000305.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:15:01
Operator : MH
Sample : HCSV9-49L 0.4PPM
Misc :
ALS Vial : 44 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:06:24 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

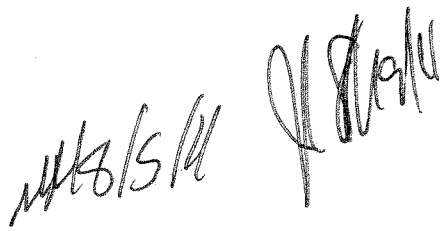
Data Path : J:\LC07\Data\080511AH\
Data File : 0805000306.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:31:51
Operator : MH
Sample : HCSV9-49M 1PPM
Misc :
ALS Vial : 45 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:57 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.755	88283024	1038.856	ug/L
2) T	Acetaldehyde	7.735	58177982	997.907	ug/L
3) T	Propionaldehyde	12.449	42886042	972.728	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

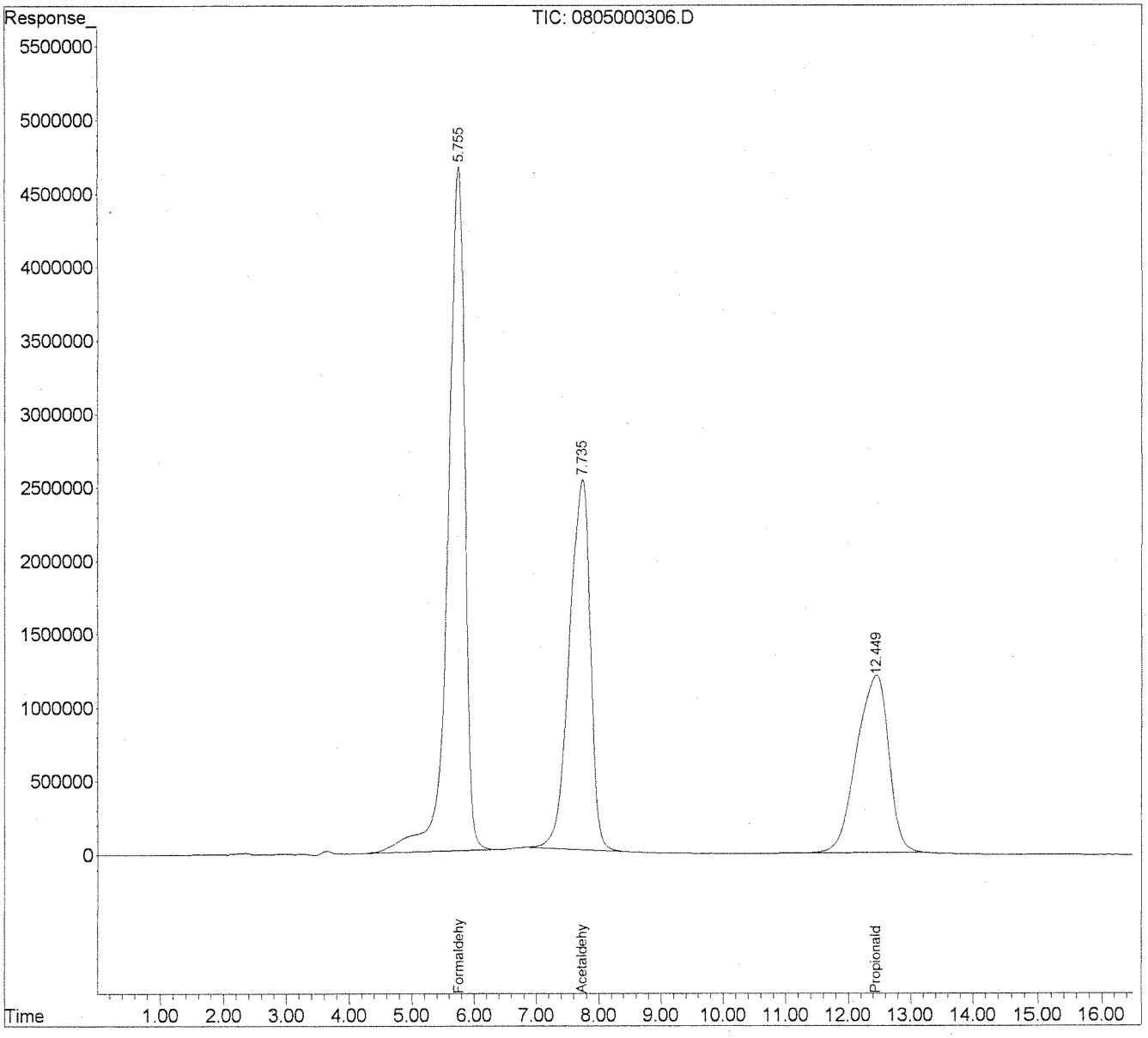


Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000306.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:31:51
Operator : MH
Sample : HCSV9-49M 1PPM
Misc :
ALS Vial : 45 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:57 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000307.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:48:41
Operator : MH
Sample : HCSV9-49N 2PPM
Misc :
ALS Vial : 46 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:59 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.749	181254376	2132.881	ug/L
2) T	Acetaldehyde	7.729	122175629	2095.637	ug/L
3) T	Propionaldehyde	12.442	89179068	2022.732	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

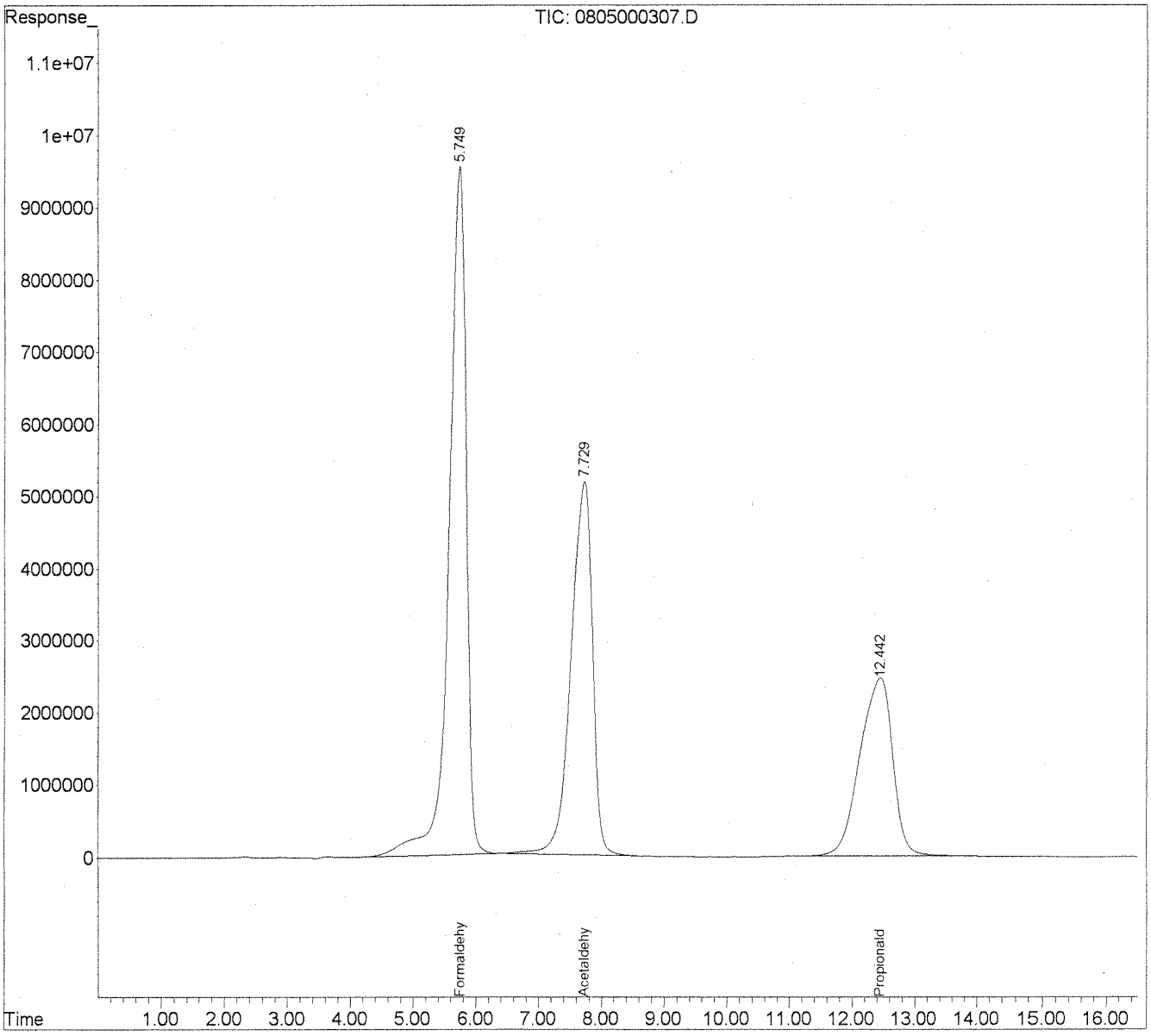
8/5/11 8/8/11

Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000307.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 13:48:41
Operator : MH
Sample : HCSV9-49N 2PPM
Misc :
ALS Vial : 46 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:02:59 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000308.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:05:31
Operator : MH
Sample : HCSV9-49O 5PPM
Misc :
ALS Vial : 47 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:03:01 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.749	456095561	5367.029	ug/L
2) T	Acetaldehyde	7.736	308349558	5289.015	ug/L
3) T	Propionaldehyde	12.442	227124399	5151.565	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

8/5/11

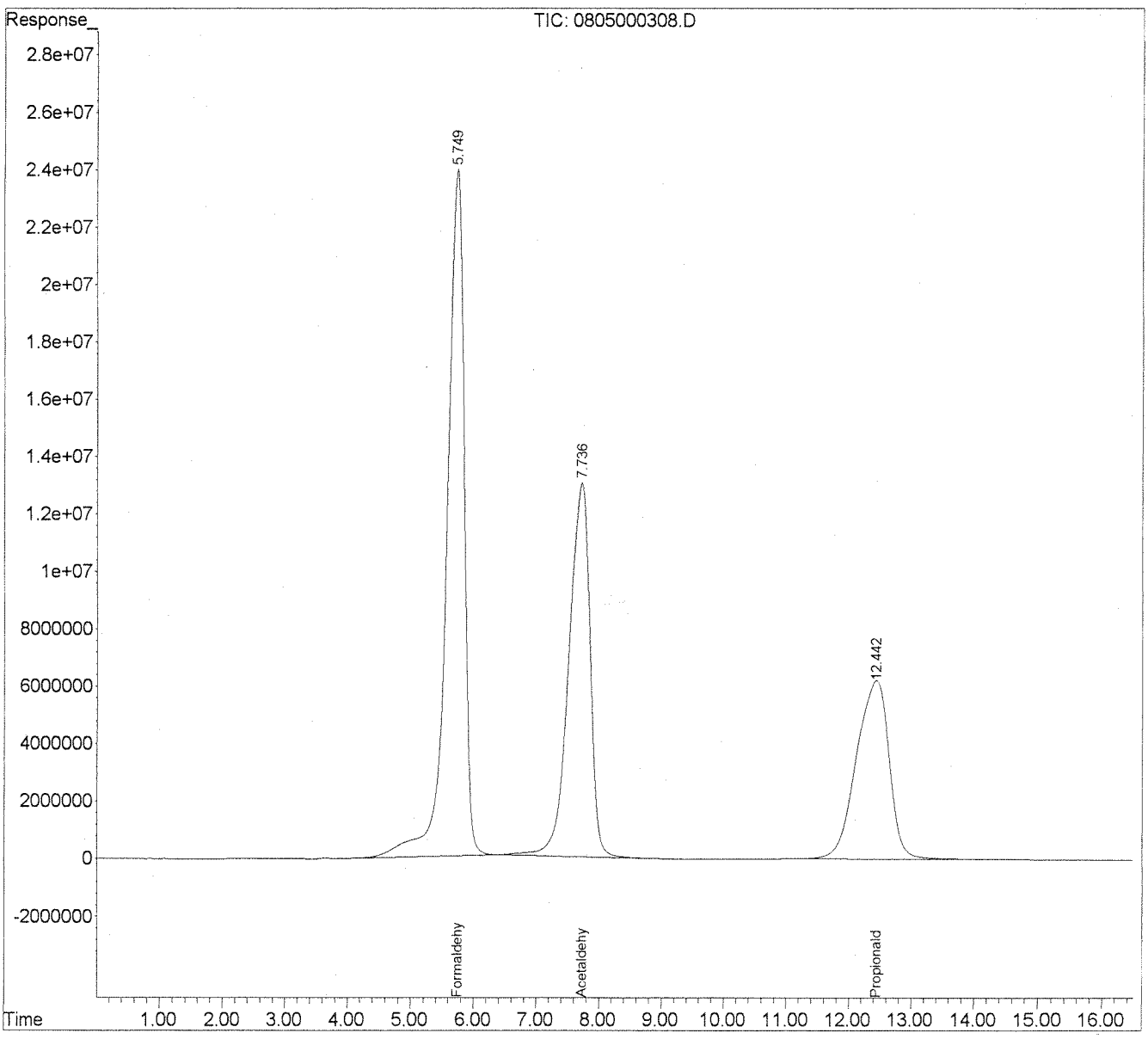
8/5/11

Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000308.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:05:31
Operator : MH
Sample : HCSV9-49O 5PPM
Misc :
ALS Vial : 47 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:03:01 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000309.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:22:21
Operator : MH
Sample : HCSV9-49P 10PPM
Misc :
ALS Vial : 48 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:03:03 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.755	912202274	10734.190	ug/L
2) T	Acetaldehyde	7.741	615467949	10556.912	ug/L
3) T	Propionaldehyde	12.455	461885608	10476.346	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

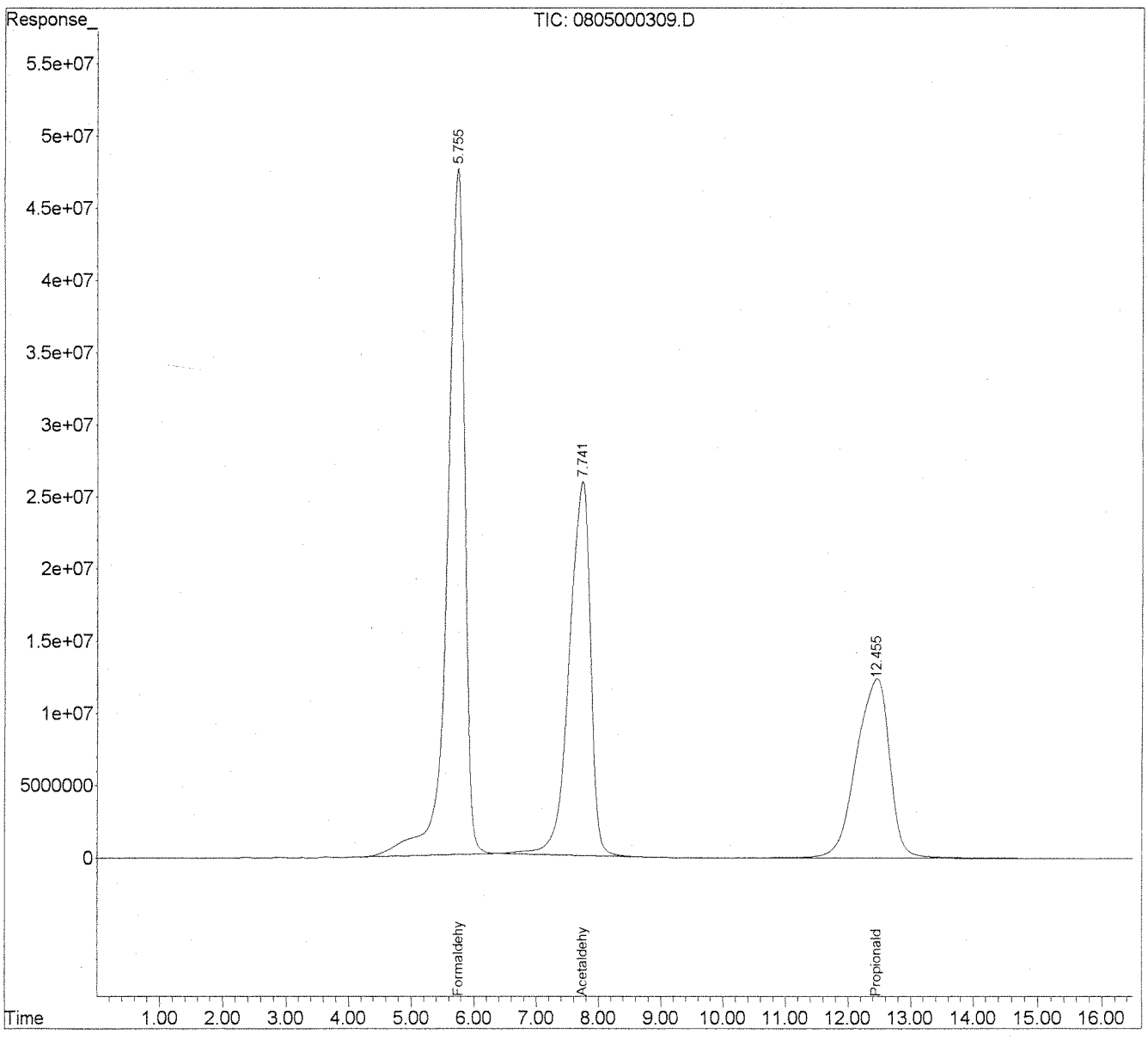
8/5/11

Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000309.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:22:21
Operator : MH
Sample : HCSV9-49P 10PPM
Misc :
ALS Vial : 48 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:03:03 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000310.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:39:12
Operator : MH
Sample : HCSV9-48I 20PPM
Misc :
ALS Vial : 49 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:03:05 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.755	1754224733	20642.551	ug/L
2) T	Acetaldehyde	7.742	1162829928	19945.626	ug/L
3) T	Propionaldehyde	12.469	961916508	21817.892	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

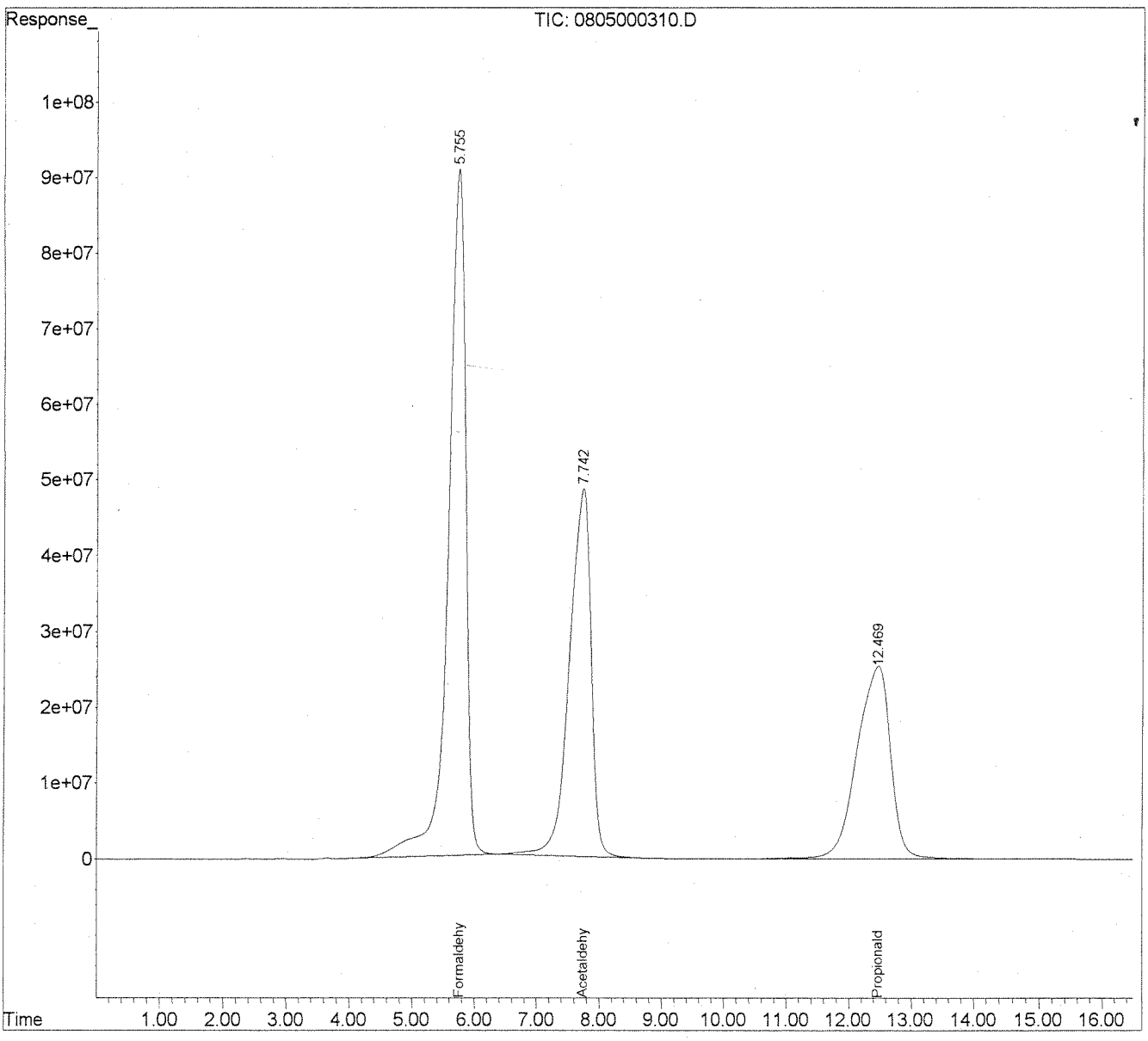
MH 8/5/11

Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000310.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:39:12
Operator : MH
Sample : HCSV9-48I 20PPM
Misc :
ALS Vial : 49 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:03:05 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 15:51:21 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000311.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:56:02
Operator : MH
Sample : HCSV9-49I ICV 2PPM
Misc :
ALS Vial : 50 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:12:58 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 16:12:32 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.749	189914320	2163.836	ug/L
2) T	Acetaldehyde	7.735	132133773	2261.152	ug/L
3) T	Propionaldehyde	12.442	98610115	2240.284	ug/L

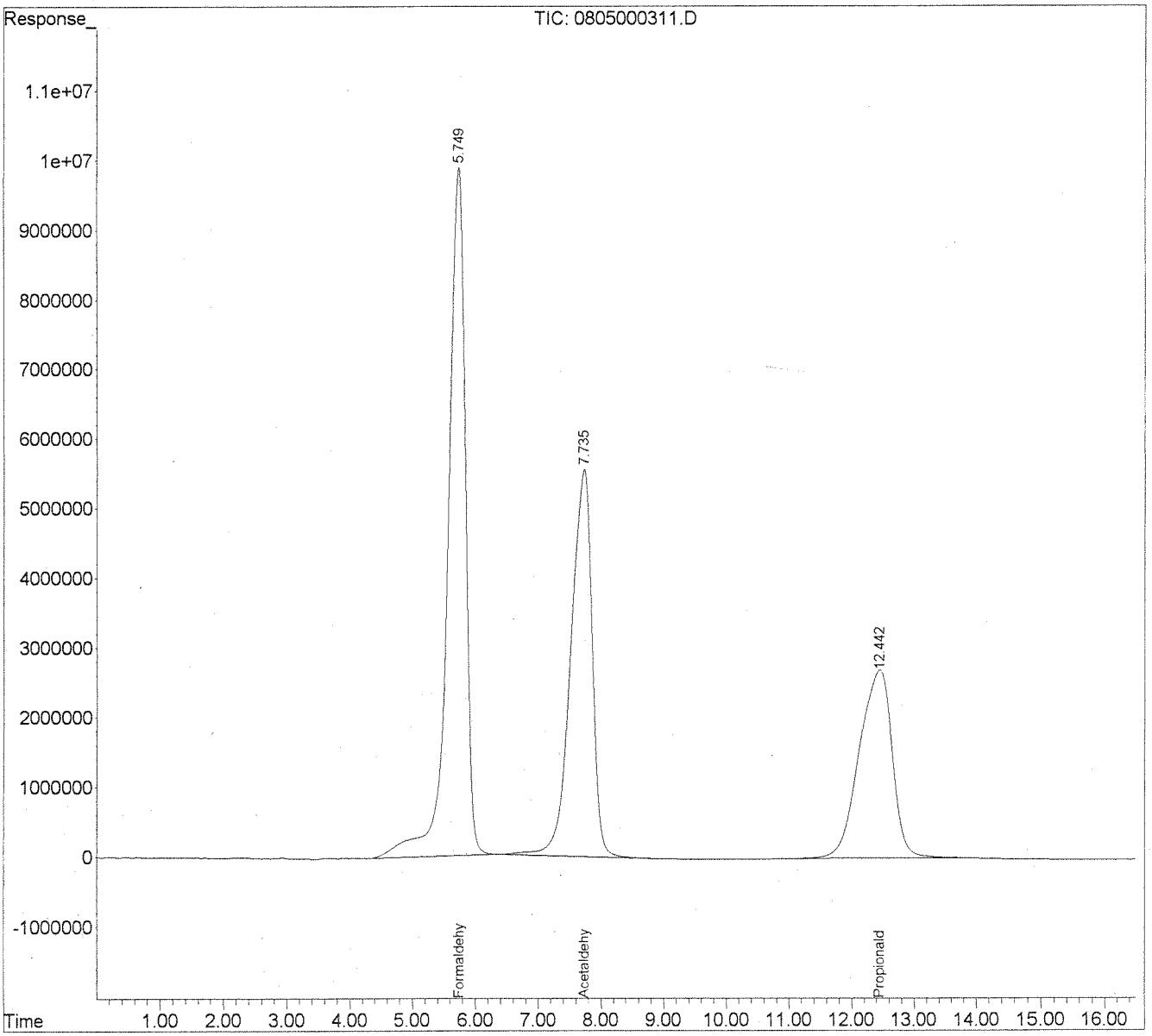
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\LC07\Data\080511AH\
Data File : 0805000311.D
Signal(s) : DAD1A.ch
Acq On : 05-Aug-2011, 14:56:02
Operator : MH
Sample : HCSV9-49I ICV 2PPM
Misc :
ALS Vial : 50 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Aug 05 16:12:58 2011
Quant Method : J:\LC07\Method\8315_080511.M
Quant Title : 031411 Aldehydes Cal 10380
QLast Update : Fri Aug 05 16:12:32 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Date Analyzed: 10/27/2011

Continuing Calibration Verification Summary
Carbonyls by High Performance Liquid Chromatography

Calibration Type: External Standard
Analysis Method: 8315A

Calibration Date: 08/05/2011
Calibration ID: CAL10751
Analysis Lot: KWG1110982
Units: ug/L

File ID: J:\LC10\DATA\102711AH\1027000103.D

Column ID: 100x3.2mm 3u

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Formaldehyde	2000	2000	87800	87900	0	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: J:\LC10\DATA\102711AH\1027000103.D
Lab ID: KWG1110982-2
RunType: CCV
Matrix: SOLID

Date Acquired: 10/27/2011 10:03
Date Quantitated: 10/28/2011 08:55
Batch ID: KWG1110982
Analysis Method: 8315A
MethodJoinID: MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 3/ 10-28-11

Secondary Review: A 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000103.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 10:03	**Quant Date:**	10/28/2011 08:55	**Vial:**	22
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1110982-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**		**Report Group:**	
Analysis Method:	8315A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.89		175727554	2,002			
Acetaldehyde	7.95		123395081	2,112			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000103.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 10:03	**Quant Date:**	10/28/2011 08:55	**Vial:**	22
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1110982-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	**Report Group:**
Analysis Method:	8315A	**Prep Method:**	
Prep Ref:		**Prep Date:**	

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ398
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.89		175727554	2,002			
Acetaldehyde	7.95		123395081	2,112			
n-Propanal	12.86		92082493	2,092			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000103.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:03:55
Operator : MH
Sample : HCSV9-50E 2PPM CCV
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:54 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.888	175727554	2002.196	ug/L
2) T	Acetaldehyde	7.948	123395081	2111.610	ug/L
3) T	Propionaldehyde	12.861	92082493	2091.986	ug/L

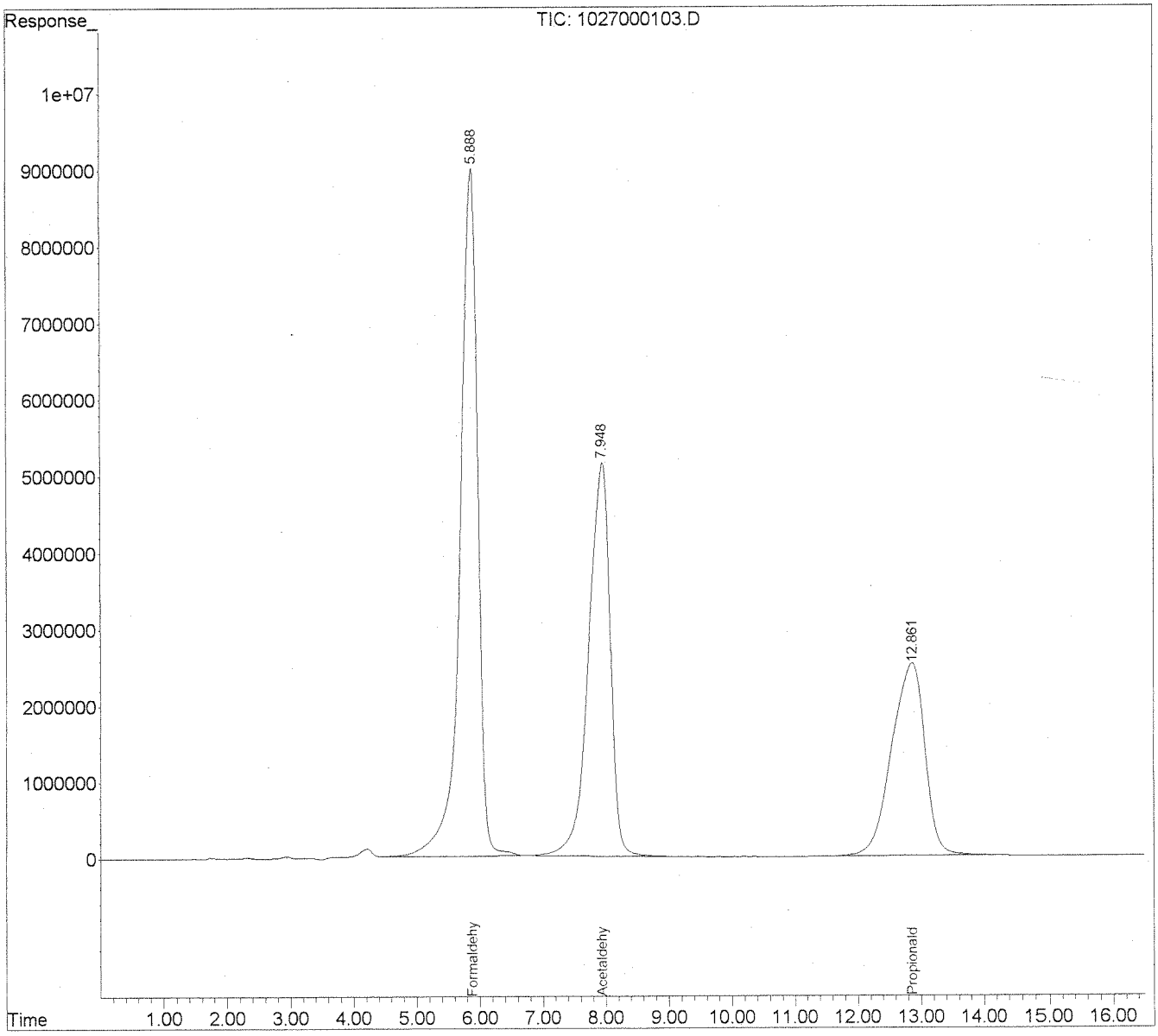
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000103.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 10:03:55
Operator : MH
Sample : HCSV9-50E 2PPM CCV
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:54 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Exception Report

Data File: J:\LC10\DATA\102711AH\1027000102.D
Lab ID: KWG1110982-1
RunType: IB
Matrix: SOLID

Date Acquired: 10/27/2011 09:47
Date Quantitated: 10/28/2011 08:55
Batch ID: KWG1110982
Analysis Method: 8315A
MethodJoinID: MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: AD 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000102.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 09:47	**Quant Date:**	10/28/2011 08:55	**Vial:**	21
Run Type:	IB			**Dilution:**	1.0
Lab ID:	KWG1110982-1			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**		**Report Group:**	
Analysis Method:	8315A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde			0				
Acetaldehyde			0				

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000102.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 09:47	**Quant Date:**	10/28/2011 08:55	**Vial:**	21
Run Type:	IB			**Dilution:**	1.0
Lab ID:	KWG1110982-1			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**		**Report Group:**	
Analysis Method:	8315A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ398
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde			0				
Acetaldehyde			0				
n-Propanal			0				

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000102.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 09:47:03
Operator : MH
Sample : IB
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:52 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

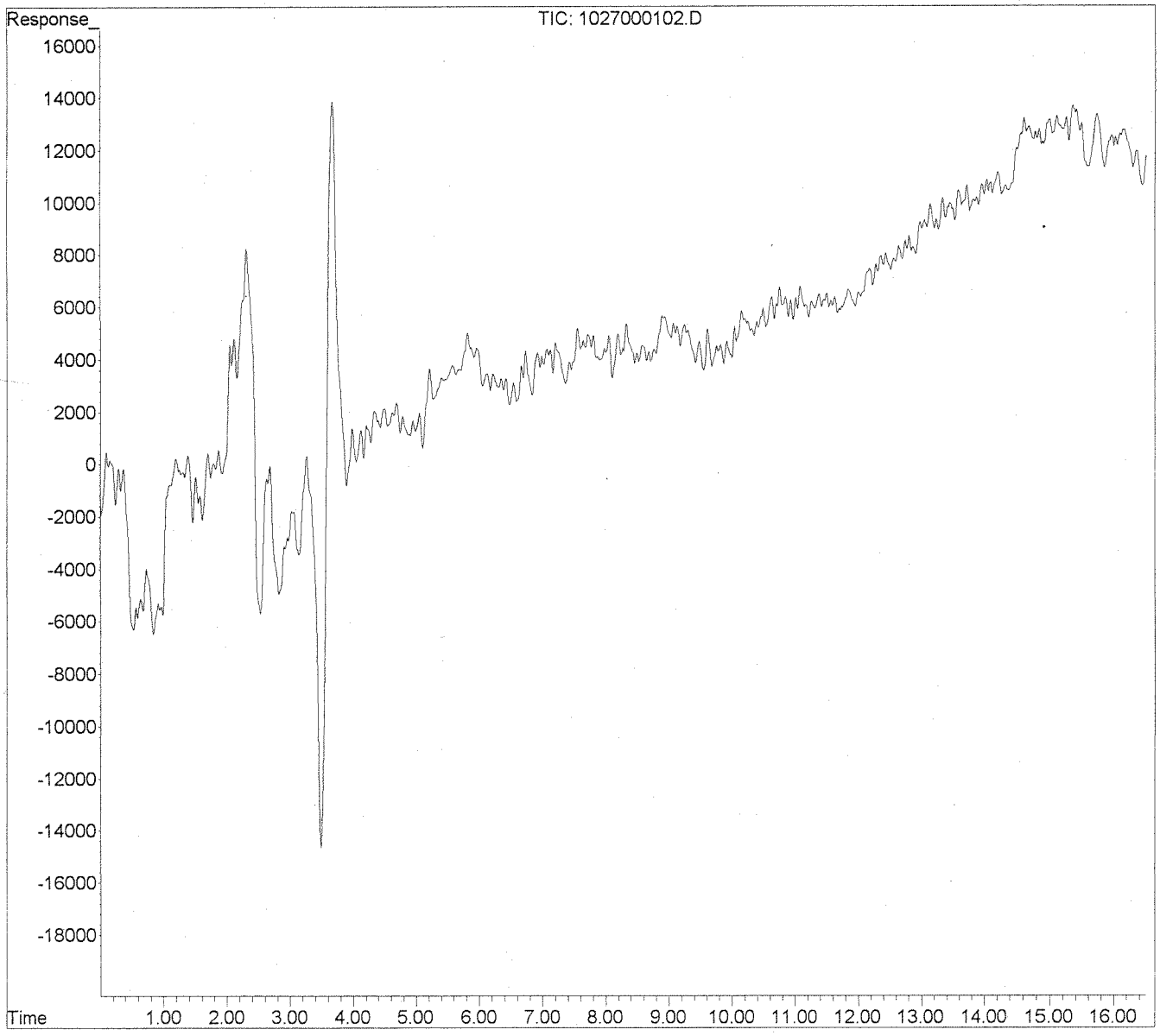
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	0.000	0	N.D.	ug/L
2) T	Acetaldehyde	0.000	0	N.D.	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000102.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 09:47:03
Operator : MH
Sample : IB
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:55:52 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Client: URS Corporation
Project: Santa Susana Field Laboratory

Service Request: K1110227
Date Analyzed: 10/27/2011

Continuing Calibration Verification Summary
Carbonyls by High Performance Liquid Chromatography

Calibration Type: External Standard
Analysis Method: 8315A

Calibration Date: 08/05/2011
Calibration ID: CAL10751
Analysis Lot: KWG1110982
Units: ug/L

File ID: J:\LC10\DATA\102711AH\1027000114.D

Column ID: 100x3.2mm 3u

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Formaldehyde	2000	2000	87800	88200	0	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: J:\LC10\DATA\102711AH\1027000114.D
Lab ID: KWG1110982-3
RunType: CCV
Matrix: SOLID

Date Acquired: 10/27/2011 13:09
Date Quantitated: 10/28/2011 08:56
Batch ID: KWG1110982
Analysis Method: 8315A
MethodJoinID: MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: A 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000114.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 13:09	**Quant Date:**	10/28/2011 08:56	**Vial:**	22
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1110982-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**	**Report Group:**
Analysis Method:	8315A	**Prep Method:**	
Prep Ref:		**Prep Date:**	

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.87		176308717	2,009			
Acetaldehyde	7.94		124056655	2,123			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000114.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 13:09	**Quant Date:**	10/28/2011 08:56	**Vial:**	22
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1110982-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**		**Report Group:**	
Analysis Method:	8315A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ398
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde	5.87		176308717	2,009			
Acetaldehyde	7.94		124056655	2,123			
n-Propanal	12.83		92408542	2,099			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000114.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 13:09:44
Operator : MH
Sample : HCSV9-50E 2PPM CCV
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:16 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

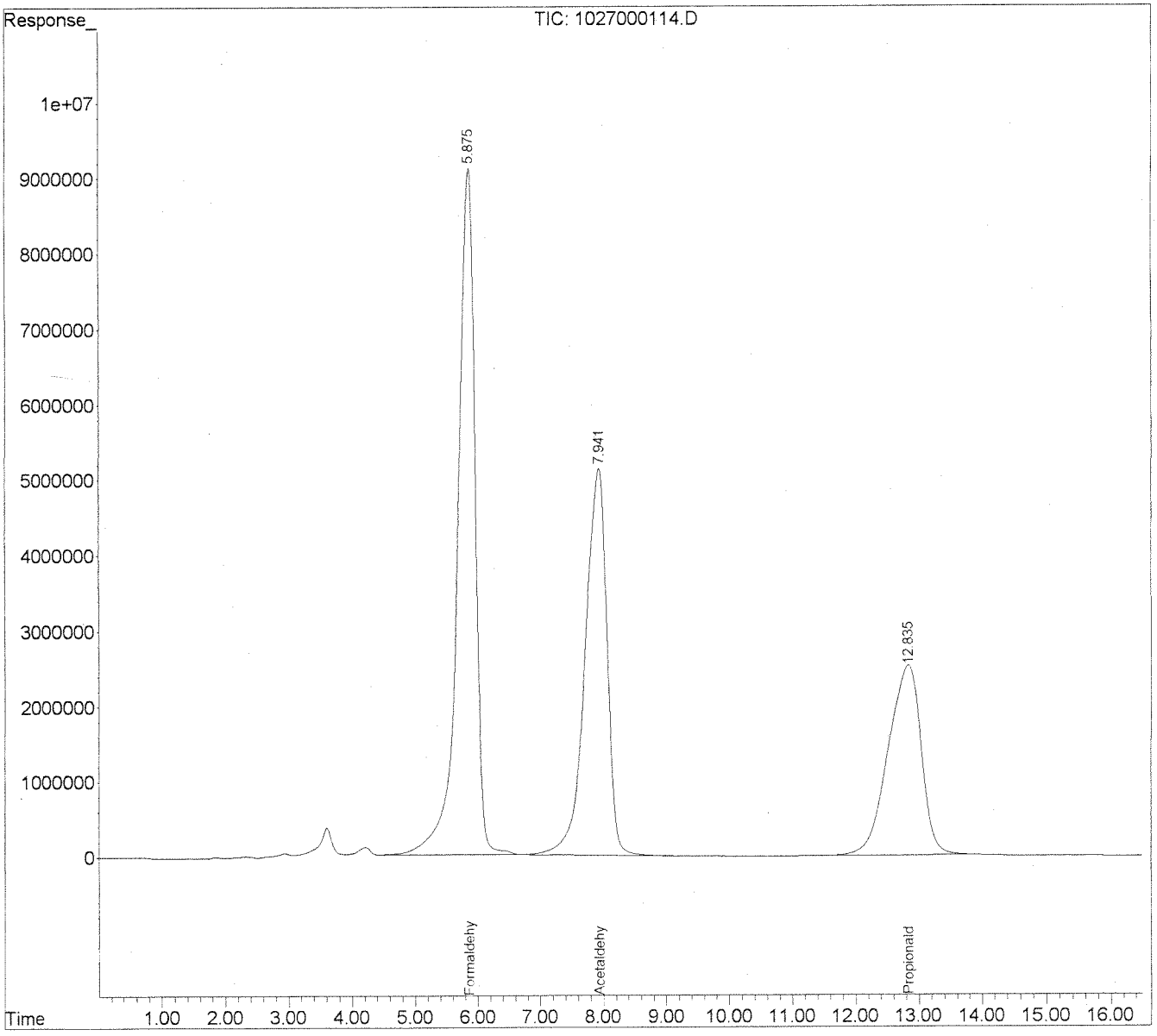
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	5.875	176308717	2008.817	ug/L
2) T	Acetaldehyde	7.941	124056655	2122.931	ug/L
3) T	Propionaldehyde	12.835	92408542	2099.393	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000114.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 13:09:44
Operator : MH
Sample : HCSV9-50E 2PPM CCV
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 08:56:16 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Exception Report

Data File: J:\LC10\DATA\102711AH\1027000115.D
Lab ID: KWG1110982-4
RunType: IB
Matrix: SOLID

Date Acquired: 10/27/2011 13:26
Date Quantitated: 10/28/2011 09:02
Batch ID: KWG1110982
Analysis Method: 8315A
MethodJoinID: MJ396

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SJ 10-28-11

Secondary Review: A 11/3/11

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000115.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 13:26	**Quant Date:**	10/28/2011 09:02	**Vial:**	21
Run Type:	IB			**Dilution:**	1.0
Lab ID:	KWG1110982-4			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**		**Report Group:**	
Analysis Method:	8315A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ396
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde			0d				
Acetaldehyde			0				

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Data File:	J:\LC10\DATA\102711AH\1027000115.D			**Instrument:**	LC10
Acqu Date:	10/27/2011 13:26	**Quant Date:**	10/28/2011 09:02	**Vial:**	21
Run Type:	IB			**Dilution:**	1.0
Lab ID:	KWG1110982-4			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	SOLID
Prod Code:	8315A CARBONYLS	**Collect Date:**		**Receive Date:**	10/28/2011

Analysis Lot:	KWG1110982	**Prep Lot:**		**Report Group:**	
Analysis Method:	8315A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\LC10\METHOD\8315_080511.	**Calibration ID:**	CAL10751
Title:			
		Method ID:	MJ398
MB Ref:		**Quant based on Method**	

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Formaldehyde			0d				
Acetaldehyde			0				
n-Propanal			0				

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000115.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 13:26:38
Operator : MH
Sample : IB
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 09:02:40 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm

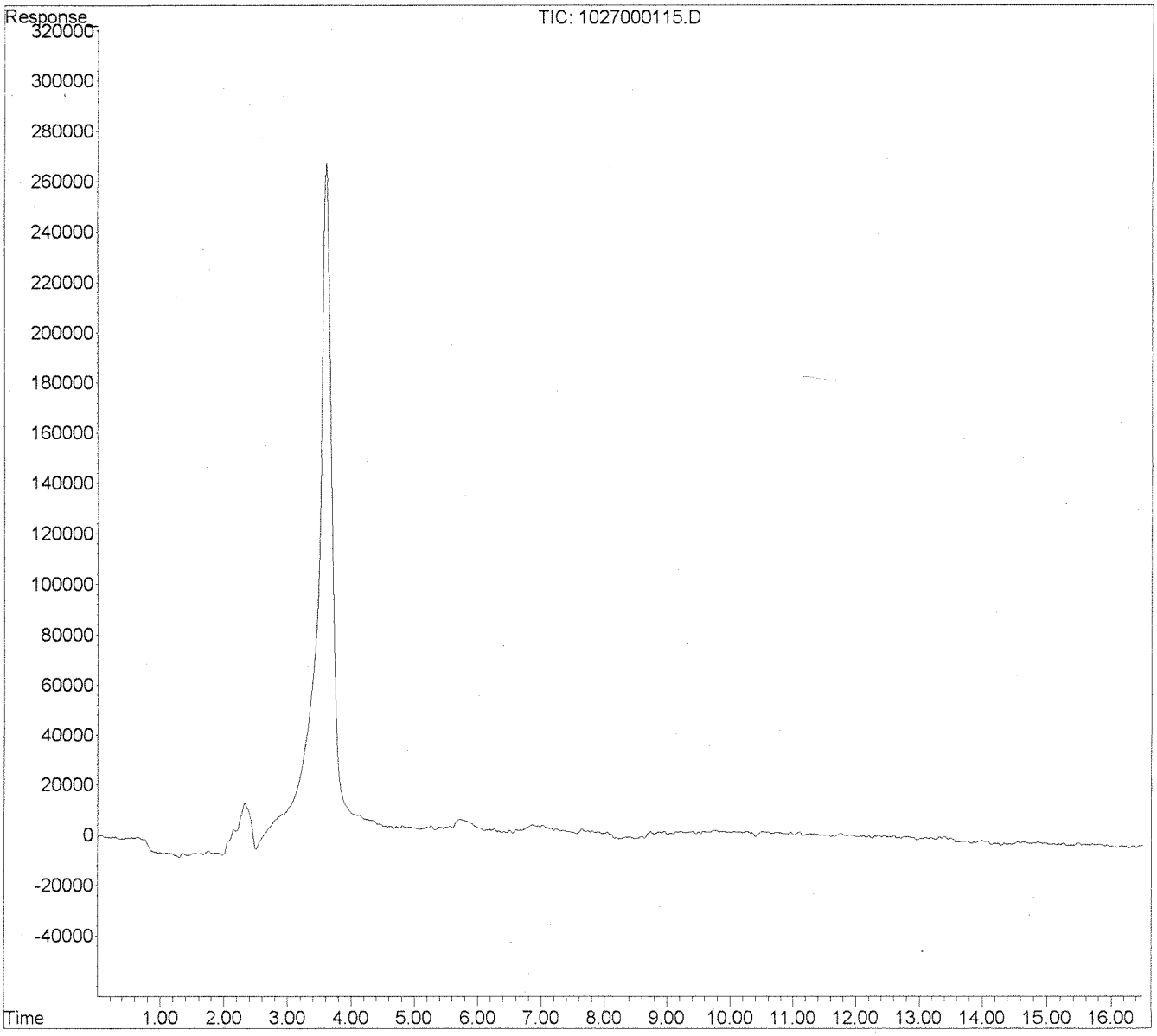
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1) T	Formaldehyde	0.000	0	N.D.	ug/L d
2) T	Acetaldehyde	0.000	0	N.D.	ug/L
3) T	Propionaldehyde	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\LC10\Data\102711AH\
Data File : 1027000115.D
Signal(s) : DAD1A.ch
Acq On : 27-Oct-2011, 13:26:38
Operator : MH
Sample : IB
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P
Quant Time: Oct 28 09:02:40 2011
Quant Method : J:\LC10\Method\8315_080511.M
Quant Title : 080511 Aldehydes Cal 10751
QLast Update : Fri Oct 28 08:55:33 2011
Response via : Initial Calibration
Integrator: RTE

Volume Inj. : 15uL
Signal Phase : 100x3.2mm 3um Restek Pinnacle II C18
Signal Info : Diode array @ 360nm



Organic Analysis:
Carbonyls by High Performance Liquid Chromatography
Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG1110804	**Prep Method:**	METHOD	**Prep Date:**	10/26/11 12:57
Department:	Organic LC	**Pre-Prep Method:**	METHOD	**Pre-Prep Date:**	10/25/2011 - 10/26/2011

› Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
110169-002	CZBS0064S005 Soil	8315A CARBONYLS	SOIL	5.104g	25ml	
110169-003	CZBS0019S005 Soil	8315A CARBONYLS	SOIL	5.142g	25ml	
110169-004	CZBS0040S035 Soil	8315A CARBONYLS	SOIL	5.025g	25ml	
110227-001	CZBS0054S005 Soil	8315A CARBONYLS	SOIL	5.046g	25ml	
/G1110804-1	Matrix Spike	8315A CARBONYLS	SOIL	5.064g	25ml	
/G1110804-2	Duplicate Matrix Spike	8315A CARBONYLS	SOIL	5.118g	25ml	
/G1110804-3	Lab Control Sample	8315A CARBONYLS	SOIL	5.142g	25ml	
/G1110804-4	Duplicate Lab Control Sampl	8315A CARBONYLS	SOIL	5.142g	25ml	
/G1110804-5	Method Blank	8315A CARBONYLS	SOIL	5.142g	25ml	
/G1110804-6	Blank Spike	8315A CARBONYLS	SOIL	5.142g	25ml	

ab Code	Parent Lab Code	Comments
.WG1110804-1	K1110227-001	
.WG1110804-2	K1110227-001	

ab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
.1110169-002	1069742	N/A				RHolden
.1110169-003	1069743	N/A				RHolden
.1110169-004	1069740	N/A				RHolden
.1110227-001	1069741	N/A				RHolden
.WG1110804-1	1069744	N/A		HCSV9-52R	10uL	RHolden
.WG1110804-2	1069745	N/A		HCSV9-52R	10uL	RHolden
.WG1110804-3	1069746	N/A		HCSV9-52R	10uL	RHolden
.WG1110804-4	1069747	N/A		HCSV9-52R	10uL	RHolden
.WG1110804-5	1069748	N/A				RHolden
.WG1110804-6	1069749	N/A		HCSV9-52R	2uL	RHolden

omments:

larted By:	RLarson	Assisted By:	—	Training	Yes / No
ompleted By:	SJones	Assisted By:	—		Yes / No
eviewed By:		Date:	11/3/11	Storage:	Top Shelf

hain of Custody

Relinquished By:	S.Jones	Date:	10-26-11
Received By:		Date:	10/27/11

Extracts Examined: Yes / No

Preparation Information

Group ID: KWG1110804 **Prep Method:** **Prep Date:** 10/25/11 00:00
Department: Organic LC

	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext.	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
	K1110169-002	CZBS0064S005 Soil	1	√	8315A CARBONYLS	SOIL	5.104	3.0	N/A	25ml	N/A	N/A
	K1110169-003	CZBS0019S005 Soil	1	√	8315A CARBONYLS	SOIL	5.142	3.0	"	"	"	"
	K1110169-004	CZBS0040S035 Soil	1	√	8315A CARBONYLS	SOIL	5.025	2.9	"	"	"	"
	K1110227-001	CZBS0054S005 Soil	2	√	8315A CARBONYLS	SOIL	5.046	2.9	"	"	"	↓
	KWG1110804-1	Matrix Spike 10227-1	2	√	8315A CARBONYLS	SOIL	5.064	2.9	"	"	"	10ml
	KWG1110804-2	Duplicate Matrix Spike 10227-1	2	√	8315A CARBONYLS	SOIL	5.114	2.9	"	"	"	"
	KWG1110804-3	Lab Control Sample			8315A CARBONYLS	SOIL	5.142	3.0	"	"	"	"
	KWG1110804-4	Duplicate Lab Control Sample			8315A CARBONYLS	SOIL	5.142	2.9	"	"	"	↓
	KWG1110804-5	Method Blank			8315A CARBONYLS	SOIL	5.142	2.9	"	"	"	N/A
0	KWG1110804-6	Blank Spike LOQ			8315A CARBONYLS	SOIL	5.142	3.0	↓	↓	↓	2ml

Comments: #145008

Surrogate ID: N/A

Spike ID: HCSV9-52R @ 1000ppm, exp. 4-21-12, 10ml (S1)

Witness: Rachel Holder 10-26-11

Started By: R. Larson Assisted By: —

Completed By: S. Jones Assisted By: —

Additional Prep Information For 8315A in Solids

Service Request # K1110169, K1110227 **Work Group #** KWG1110804

Solvents/Reagents used:

Acetonitrile Lot # 51208 **Leachate Lot #** PHGRE02-39E

Citric Acid Lot # PHC-RE02-37F **Sodium Citrate Lot #** PHC-RE02-38J

DNPH Lot # PHC-RE02-39F **Concentrated NaCL Solution Lot#** PHC-RE02-38F

C_{18} Cartridge Lot# K12554

Extraction:

Leachate Tumbling Start (Time/Date/Initial): 12:05 10-25-11 ~~RE~~

Leachate Tumbling Stop (Time/Date/Initial): 07:50 / 10.26.11 / SJ

Derivitization Tumbling Start (Time/Date/Initial): ~~15:10~~ 12:57/10.26.11/SJ

Derivitization Tumbling Stop (Time/Date/Initial): 13:28/10.26.11 / SJ

SPE Extraction Start (Time/Date/Initial): 15:00/10.26.11/SJ

SPE Extraction Stop (Time/Date/Initial): 16:35/10.26.11/SJ

Completion (Time/Date/Initial): 16:35/10.26.11/SJ

Vial Storage: _____ **Archived Extract Storage:** It's a Narwhal!

Comments/Observations:

Bench Sheet Review Check List
☐ Hold Times Met (if no, Reason: _____)
☐ Prep date, dept, method, product code correct in stealth
☐ Spike Information correct
☐ Weights/Volumes and units correct on raw and final bench sheets
☐ Sample IDs have been checked—Bottle numbers appended if required
☐ Names present for: Started by, Completed by, relinquished by, and witnessed by.
☐ Training has been circled
☐ Extract Storage recorded
☐ Additional Prep Sheet completely filled out (NA or line out Blanks)
☐ All clean-ups have been noted on additional prep sheet
☐ Signed service request with Form V, if applicable, has been attached

Columbia Analytical Services Inc.

Client : URS CORPORATION **Project Chemist :** Lynda Huckestein

Project Name : Santa Susana **Service Request :** k1110227

Project Number : **SMO LimsTemplate ID :**

Project Description :

QAPP/SOW Information :

Project Specific Saved in the LIMS project attachments

Reporting

Tier Level : IV **PDF:** **Report to :** MRL/MDL

In result field use : ND - Merged Report **EDD :**

Flagging Requirements : CAS

Other Requirements :

Sample Considerations

Sample Limitations : VERY LIMITED SAMPLE MASS. If >10% moisture, the sample mass used for extraction/digestion must be increased to achieve an equivalent dry weight mass.

Sample Prep/Analysis : See attached for project requirements. Metals by 6010B and 6020. Logins will be added on to each week. An additional LCS spiked at the MRL is also required for each batch. Also, LCS/DLSC required with each batch

Non-Standard Holdtimes : 48 HOUR HOLD TIME FOR NO3

Historical Data :

Comments :

TABLE 4
ANALYTICAL METHODS AND REPORTING LIMITS (Page 1 of 4)

Method / Analyte	Minimum Reporting Limit Soil	Minimum Reporting Limit Water
Anions by EPA Method 300.0 / 9056A	**ppm (mg/kg)**	**ppm(mg/L)**
Fluoride	1	0.50
Nitrate	1.5	0.50
Cyanide by EPA Method 9012A	**ppm (mg/kg)**	**ppm(mg/L)**
Cyanide	0.5	0.010
Formaldehyde by EPA 8315A	**ppb (µg/kg)**	**ppb (ug/L)**
Formaldehyde	1500	50
Alcohols by EPA 8015B	**ppb (µg/kg)**	**ppb (µg /L)**
Methanol	500	1000
Ethanol	500	1000
Chlorinated Herbicides by EPA Method 8151A	**ppb (µg/kg)**	**ppb (µg /L)**
2,4,5-T	0.17	0.050
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP)	0.17	0.050
2,4-Dichlorophenoxyacetic Acid (2,4-D)	3.6	0.50
2,4-Dichlorophenoxybutyric acid (2,4-DB)	1.7	1.0
Dalapon	9	1.3
Dicamba	1.2	0.30
Dichlorprop	1.7	0.50
Dinoseb	2.4	0.50
MCPA	250	1000
MCPP	250	200
Grain Size by ASTM Method D421/D422	**mm**	**N/A**
Particle Size		N/A
Hexavalent Chromium by EPA Methods 7199/7196A	**ppm (mg/kg)**	**ppb(µg/L)**
Hexavalent chromium	1	10
Mercury by EPA Methods 7471A/7470A	**ppm (mg/kg)**	**ppm (mg/L)**
Mercury	0.1	0.00020
Metals by EPA Methods 6010B/6020	**ppm (mg/kg)**	**ppb (mg/L)**
Aluminum	20	0.200 6010B
Antimony	0.2	0.0010 6020
Arsenic	0.4	0.0020 6020
Barium	0.5	0.0020 6010B
Beryllium	0.1	0.00050 6020
Boron	5	0.0500 6010B
Cadmium	0.1	0.00050 6020
Calcium	20	0.200 6010B
Chromium	0.4	0.0020 6020

use these methods

NOTE: LIMITED SAMPLE MASS

TABLE 4
ANALYTICAL METHODS AND REPORTING LIMITS (Page 2 of 4)

Method / Analyte	Minimum Reporting Limit Soil	Minimum Reporting Limit Water
Cobalt	0.1	0.00050 6020
Copper	0.4	0.0020 6020
Iron	20	0.200 6010 B
Lead	0.2	0.0010 6020
Lithium	2	0.0200 6010 B
Magnesium	10	0.100 6010B
Manganese	0.5	0.0050 6010 B
Molybdenum	0.1	0.00050 6020
Nickel	0.4	0.0020 6020
Phosphorus	10	0.100 6010 B
Potassium	50	0.500 6010 B
Selenium	7742 — 0.4 6020 (1.0)	0.0020 6020
Silver	0.1	0.00050 6020
Sodium	100	1.00 6010 B
Strontium	0.5	0.0050 6010 LL-B
Thallium	0.1	0.00050 6020
Tin	10	0.0200 6010 LL B
Titanium	1	0.0100 6010 LL B
Vanadium	0.1 (0.2	0.00050 6020
Zinc	3	0.015 6010 B
Zirconium	5	0.050 6020
PAHs, Phthalates by EPA Method 8270C, 8270C (SIM)	**ppb (µg/kg)**	**ppb (µg/L)**
1-Methyl naphthalene	1.67	0.050
2-Methylnaphthalene	1.67	0.05
Acenaphthene	1.67	0.05
Acenaphthylene	1.67	0.05
Anthracene	1.67	0.05
Benzo(a)anthracene	1.67	0.05
Benzo(a)pyrene	1.67	0.05
Benzo(b)fluoranthene	1.67	0.05
Benzo(ghi)perylene	1.67	0.05
Benzo(k)fluoranthene	1.67	0.05
bis(2-Ethylhexyl) phthalate	18	1
Butyl benzyl phthalate	18	0.2
Chrysene	1.67	0.05
Dibenzo(a,h)anthracene	1.67	0.05
Diethyl phthalate	18	0.2
Dimethyl phthalate	18	0.2

TABLE 4
ANALYTICAL METHODS AND REPORTING LIMITS (Page 3 of 4)

Method / Analyte	Minimum Reporting Limit Soil	Minimum Reporting Limit Water
Di-n-butyl phthalate	18	0.2
Di-n-octyl phthalate	18	0.2
Fluoranthene	1.67	0.05
Fluorene	1.67	0.05
Indeno(1,2,3-cd)pyrene	1.67	0.05
Naphthalene	1.67	0.05
Phenanthrene	1.67	0.05
Pyrene	1.67	0.05
Organochlorine Pesticides by 8081A	**ppb (µg/kg)**	**ppb (µg/L)**
4,4'-DDD	0.34	0.02
4,4'-DDE	0.34	0.02
4,4'-DDT	0.34	0.02
Aldrin	0.166	0.01
alpha-BHC	0.166	0.01
beta-BHC	0.166	0.01
Chlordane (Technical)	3.4	0.5
delta-BHC	0.166	0.01
Dieldrin	0.34	0.02
Endosulfan I	0.166	0.01
Endosulfan II	0.34	0.02
Endosulfan sulfate	0.34	0.02
Endrin	0.34	0.02
Endrin aldehyde	0.34	0.1
Endrin ketone	0.34	0.02
gamma-BHC	0.166	0.01
Heptachlor	0.166	0.01
Heptachlor epoxide	0.166	0.01
Mirex	0.34	0.25
p,p'-Methoxychlor	1.66	0.1
Toxaphene	6.6	3
Dioxins/Furans by EPA Method 1613B	**ppt (pg/g)**	**ppt (ng/L)**
1,2,3,4,6,7,8-HpCDF	0.20	0.025
1,2,3,4,6,7,8-HpCDD	0.20	0.025
1,2,3,4,7,8,9-HpCDF	0.20	0.025
1,2,3,4,7,8-HxCDF	0.20	0.025
1,2,3,4,7,8-HxCDD	0.20	0.025
1,2,3,6,7,8-HxCDF	0.20	0.025
1,2,3,6,7,8-HxCDD	0.20	0.025
1,2,3,7,8,9-HxCDF	0.20	0.025

TABLE 4
ANALYTICAL METHODS AND REPORTING LIMITS (Page 4 of 4)

Method / Analyte	Minimum Reporting Limit Soil	Minimum Reporting Limit Water
1,2,3,7,8,9-HxCDD	0.20	0.025
1,2,3,7,8-PeCDF	0.20	0.025
1,2,3,7,8-PeCDD	0.20	0.025
2,3,4,6,7,8-HxCDF	0.20	0.025
2,3,4,7,8-PeCDF	0.20	0.025
2,3,7,8-TCDD	0.040	0.005
2,3,7,8-TCDF	0.040	0.005
OCDF	0.40	0.05
OCDD	0.40	0.05
Perchlorate by EPA 6850/6860	**ppb (µg/kg)**	**ppb (ug/L)**
Perchlorate	5	1

Notes/Acronyms:
BHC - Benzene Hexachloride
DDD - Dichlorodiphenyl dichloroethane
DDE - Dichlorodiphenyldichloroethylene
DDT - Dichlorodiphenyltrichloroethane
EPA - Environmental Protection Agency
HpCDD - Heptachlorodibenzo-p-dioxin
HpCDF - Heptachlorodibenzofuran
HxCDD -Hexachlorodibenzo-p-dioxin
HxCDF - Hexachlorodibenzofuran
kg - kilogram
mg – milligram
ng/L – nanograms per liter
pg/g – picograms per gram
L - Liter
OCDD - Octachlorodibenzo-p-dioxin
OCDF -Octachlorodibenzofuran
PAH - Polynuclear Aromatic Hydrocarbons
PeCDD - Pentachlorodibenzo-p-dioxins
PeCDF - Pentachlorodibenzofuran
ppb - parts per billion
ppm - parts per million
ppt - parts per trillion
RL - Reporting Limit
SIM – Selected Ion Monitoring
TCDD - Tetrachlorodibenzo-p-dioxins
TCDF – Tetrachlorodibenzofuran
ug - microgram

Date: 10-27-11

By: MH/SJ

Stealth ID: KWG1110982

Columbia Analytical Services, Inc.
Injection Log
LC10 - Agilent 1260

ICAL Date: 8-5-11

ICAL ID: 10751

LIMS ID: 266993 + 267128

2nd Review: KA 11/3/11

Column: Grace C18, Cat # 201TP5415, S/N E 100602-4-2

Mobile Phases A: — B: ACN 51140 C: H2O 51133 D: —

	Sample Name	File Name	Method	Dilution	R	Comments
1	Primer	1027000101.D	~~1027000101.D~~ 8315	NO		
2	IB	102.D				
3	HCSV9-50E 2ppm CCV	103.D				
4	KWG1110804-5 MB	104.D				
5	-3 LCS	105.D				
6	-4 DLCS	106.D				
7	-6 LOQ	107.D				
8	K1110169-002	108.D				
9	-003	109.D				
10	-004	110.D				
11	K1110227-001	111.D				
12	-001 MS	112.D				
13	-001 DMS	113.D				
14	HCSV9-50E 2ppm CCV	114.D				
15	IB	115.D				
16	IB	1027000201.D				
17	KWG1110945-5 MB	202.D				
18	-3 LCS	203.D				
19	K1110444-005	204.D				
20	-005 MS	205.D				
21	-005 DMS	206.D				
22	HCSV9-50E 2ppm CCV	207.D				
23	IB	208.D				
24						
25						
26						
27						
28						
29						
30						

SJones 10-28-11

Perchlorate

Columbia Analytical Services, Inc. 1565 Jefferson Road, Bldg 300, Ste. 360, Rochester, NY 14623 | 585.288.5380 | 585.288.8475 (fax) www.caslab.com

November 11, 2011

Ms. Lynda Huckestein
CAS - Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Re: **Laboratory Results for: Santa Susana**

Dear Ms. Huckestein:

Enclosed are the results of the sample(s) submitted to our laboratory on October 25, 2011. For your reference, these analyses have been assigned our service request number **K1110227.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at JJaeger@caslab.com.

Respectfully submitted,

Columba Analytical Services, Inc.

Janice Jaeger
Client Services Manager

100% Recycled Paper

SDG NARRATIVE

CASE NARRATIVE

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana	**Project Number:**	
Sample Matrix:	Soil	**Date Received:**	10/25/11

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV deliverables. When appropriate to the method, method blank and LCS results have been reported with each analytical test.

Sample Receipt

Samples were collected on 10/19/11 and received at CAS-Rochester on 10/25/11 at a cooler temperature of 6.3 °C in good condition except as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory.

Perchlorate

One soil sample was analyzed for Perchlorate by Method 6850 from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

The Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD) recoveries and RPD's were acceptable.

Site specific QC was not requested on these samples.

The Method Blanks associated with these samples were free of contamination.

No other analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the details conditioned above. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: K1110227

Lab ID	Client ID
K1110227-001	CZBS0054S005 Soil

Samples have been subcontracted to the following laboratory(ies). The subcontractor's analytical report is attached:

Columbia Analytical Services - KELSO
Kelso, WA

Columbia Analytical Services INC

REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

CAS/Rochester Lab ID # for State Certifications[1]

NELAP Accredited
Connecticut ID # PH0556
Delaware Accredited
DoD ELAP #65817
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Nebraska Accredited
Nevada ID # NY-00032
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
Pennsylvania ID# 68-786
Rhode Island ID # 158

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

CHAINS OF CUSTODY

INTERNAL CHAINS

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lynda Huckestein

Project Name: Santa Susana Field Laboratory
Project Number:
Project Manager: Lily Bayati
Company: URS Corporation

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Time	Date Received	Send To	ClO4 6850
K1110227-001	CZBS0054S005 Soil	1-4oz jar	Soil	10/19/11	1225	10/21/11	ROCHESTER	V

609

Test Comments

ClO4 - 6850 K1110227-001 Performed at CAS/Rochester

Folder Comments:

NOTE VERY LIMITED SAMPLE MASS. Logins will be added on to each week. An additional LCS spiked at the MRL is also required for each batch.

need ice

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: _____ Requested Report Date: 11/07/11	___ I. Results Only ___ II. Results + QC Summaries ___ III. Results + QC and Calibration Summaries X IV. Data Validation Report with Raw Data PQL/MDL/J Y EDD Y	PO# K1110227 Bill to

L59557

Relinquished By: SRW 10/24/11 1130 Received By: [signature] 10/25/11 Airbill Number: _____

Cooler Receipt And Preservation Check Form

Project/Client CAS- Kelso Folder Number K11-10227

Cooler received on 10/25/11 by: AD **COURIER:** CAS (UPS) FEDEX VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	(YES)	NO
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO
4.	Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles?	YES	NO (N/A)
5.	Were **Ice** or **Ice packs** present?	(YES)	NO
6.	Where did the bottles originate?	CAS/ROC, (CLIENT)	
7.	Temperature of cooler(s) upon receipt:	6.3°	

Is the temperature within 0° - 6° C?:	Yes	Yes	Yes	Yes	Yes
If No, Explain Below	(No)	No	No	No	No

Date/Time Temperatures Taken: 10/25/11 0921

Thermometer ID: IR GUN#3 / (IR GUN#4) Reading From: (Temp Blank) / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: VMS 10/25/11

Cooler Breakdown: Date: 10/25/11 Time: 1325 by: AD

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated		(N/A)

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*						

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: Client

Other Comments:

PC Secondary Review: VMS 11/10/11

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

H:\SMODOCS\Cooler Receipt 4.doc

00008

PERCHLORATE

QC SUMMARY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Santa Susana Field Laboratory
Sample Matrix: Soil

Service Request: K1110227
Date Analyzed: 11/ 3/11

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/Kg
Basis: Dry

Extraction Lot: 145665

	Lab Control Sample RQ1111082-02			Duplicate Lab Control Sample RQ1111082-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	1.70	2.00	85	1.80	2.00	90	80 - 120	6	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Method Blank Summary

Lab Name: **Columbia Analytical Services** *Contract:* URS CORPORATION

Lab Code: **10145** *Case.No.:* K1110227-001 *SAS No.:* _____ *SDG No.:* CZBS0054S005

Lab Sample ID: rq1111082-01 *Lab File ID:* B0023503.D

Matrix: SOIL *Level: (low/med)*

Date extracted: 11/02/11

Date analyzed: 11/3/2011

Time analyzed: 10:33

Instrument ID: HPLC02

Column(1) K'Prime 250x4.6

This Method Blank Applies to the Following Sample, MS, and MSD:

EPA Sample No.	*Lab Sample No.*	*Date Analyzed 1*	*Instrument ID*
LODV	rq1111082-04	11/3/2011	B0023504.D
PBLK1MS	rq1111082-02	11/3/2011	B0023505.D
PBLK1MSD	rq1111082-03	11/3/2011	B0023506.D
ICS	rq1111082-05	11/3/2011	B0023507.D
CZBS0054S005 SOIL	k1110227-001	11/3/2011	B0023511.D
LODV	rq1111082-04	11/3/2011	B0023517.D

8D

Perchlorate Internal Standard Area

Lab Name:	Columbia Analytical		*Client:*	URS CORPORATION	
Lab Code:	10145	*Case.No.:* K1110227-001	*SAS No.:*		*SDG* CZBS0054S005 SOIL
Lab File ID:	ICAL		*Date Analyzed:*	8/29/2011	
Instrument ID:	HPLC02				
Column	K'Prime 250x4.6				

	IS1 Area	#	*IS RT*
IS AVG From Curve	275152		14.56
Upper Limit	412728		
Lower Limit	137576		

EPA Sample No.	*Lab Sample ID*			
INST BLK	INST BLK	274400		14.57
std1	std1	272071		14.57
std2	std2	275950		14.54
std3	std3	278678		14.54
std4	std4	273652		14.57
std5	std5	274382		14.61
std6	std6	276935		14.57
std7	std7	274397		14.54
icv	icv	280538		14.54
ccv 1.00ppb	ccv 1.00ppb	191556		16.08
PBLK1	rq1111082-01	180548		16.08
LODV	rq1111082-04	183276		16.11
PBLK1MS	rq1111082-02	188676		16.08
PBLK1MSD	rq1111082-03	186876		16.04
ICS	rq1111082-05	164775		15.24
ZZZZZ	ZZZZZ	171760		16.04
ZZZZZ	ZZZZZ	163151		16.01
ZZZZZ	ZZZZZ	143206		16.11
CZBS0054S005 SOIL	k1110227-001	152200		15.97
ZZZZZ	ZZZZZ	129990	*	16.01
ccv 1.00ppb	ccv 1.00ppb	193673		16.11
ZZZZZ	ZZZZZ	73231	*	15.94
ZZZZZ	ZZZZZ	ZZZZZ		15.87
ZZZZZ	ZZZZZ	ZZZZZ	*	15.83
LODV	rq1111082-04	178355		16.01
ccv 1.00ppb	ccv 1.00ppb	195722		16.04

AREA Lower Limit = -50% of Internal Standard

Column used to flag retention time values with an

* Values outside of QC

Perchlorate LODV Summary

Lab Name: Columbia Analytical Services *Client:* URS CORPORATION

Lab Code: 10145 *Case.No.:* K1110227-001 *SAS No.:* _____ *SDG No.:* CZBS0054S005 SOI

Lab File ID: ICAL

Instrument ID: HPLC02

GC Column(1) K'Prime 250x4.6

File #	Extraction Date	Analysis Date	Analysis Time	Spike Amt (ppb)	Spike Recovery	% Recovery
B0023504.D	11/02/11	11/3/2011	10:54	1.00	1.00	100
B0023517.D	11/02/11	11/3/2011	15:35	1.00	1.00	100

PERCHLORATE

SAMPLE DATA

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	10/19/11 1225
Sample Matrix:	Soil	**Date Received:**	10/21/11
Sample Name:	CZBS0054S005 Soil	**Units:**	µg/Kg
Lab Code:	K1110227-001	**Basis:**	Dry
		Percent Solids:	91.3

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.2	U	2.2	0.36	1	11/ 2/11	11/3/11 13:26	145665	268064	

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023511.D Vial: 19
Acq On : 3 Nov 2011 1:26 pm Operator: m.pedro
Sample : k1110227-001 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 14:31 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	15.97	89	152200	1.00	ug/L	-0.56
Target Compounds						Qvalue
2) Perchlorate	15.94	83	2970	0.02	ug/L	100
3) #2 perc ion	15.94	85	2356	0.04	ug/L	100

Ratio
1.26

RATIO FAILS

Q-DEL

BA 11/3

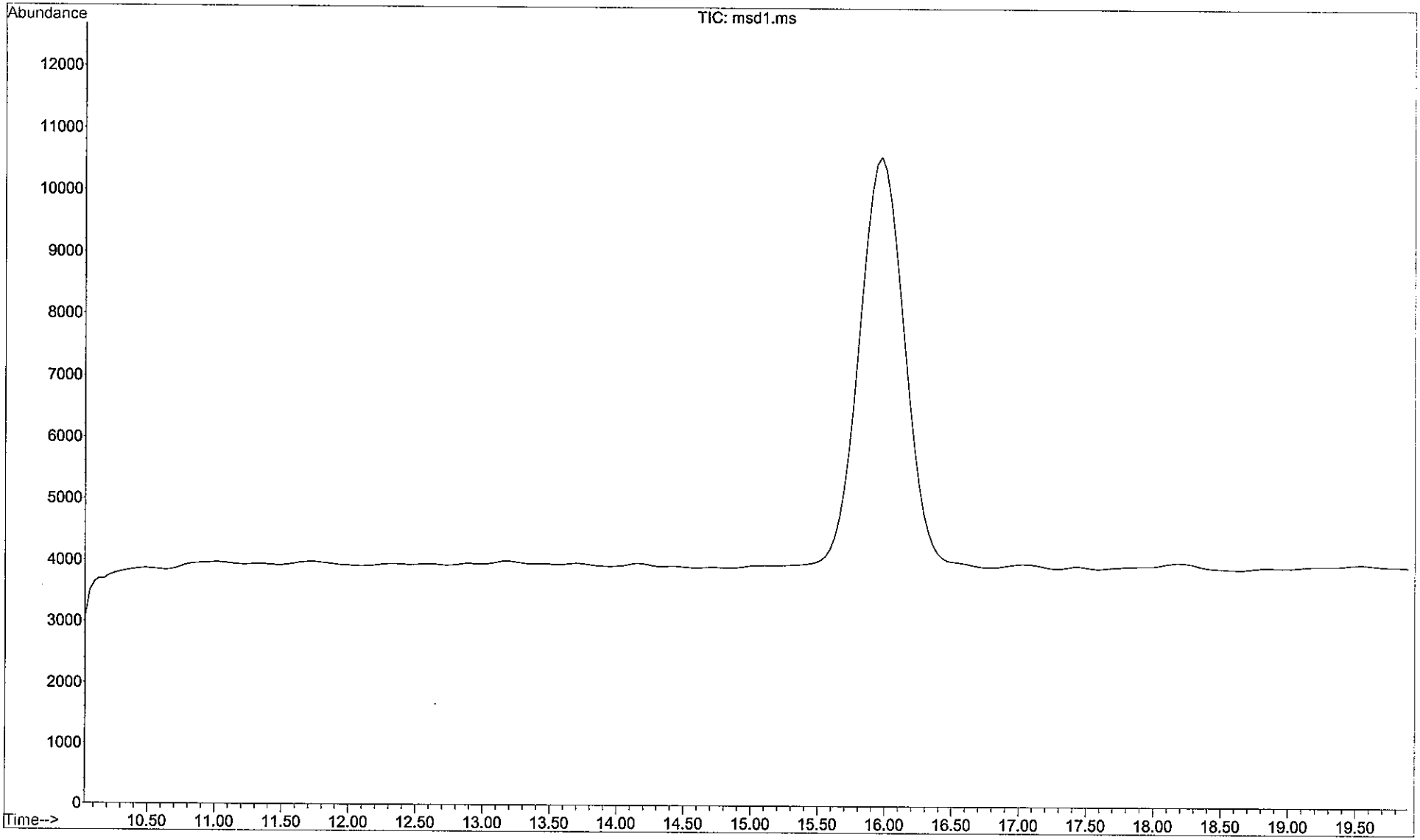
(#) = qualifier out of range (m) = manual integration
B0023511.D PERC0829.M Thu Nov 03 14:31:42 2011 Page 1

00016

Quantitation Report

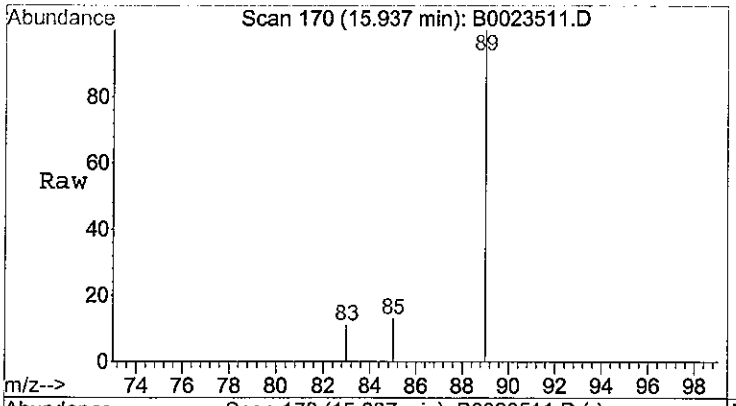
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023511.D Vial: 19
Acq On : 3 Nov 2011 1:26 pm Operator: m.pedro
Sample : k1110227-001 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 14:31 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



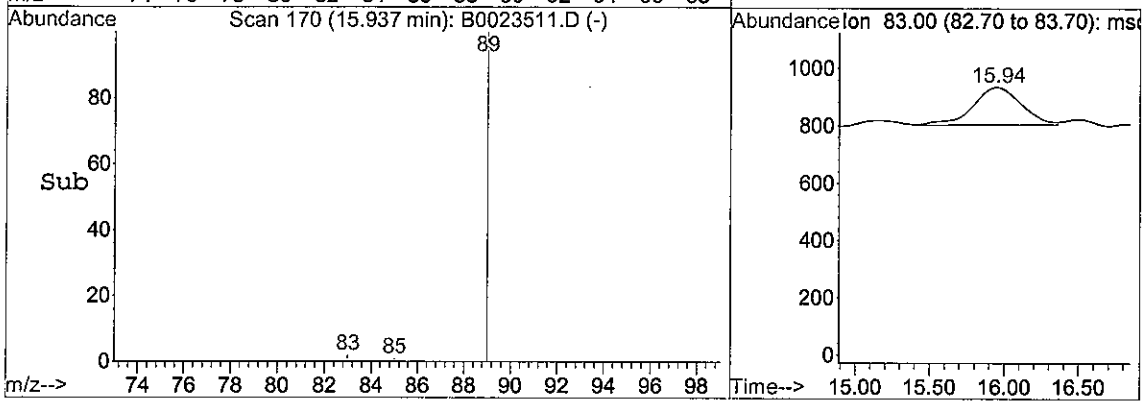
619

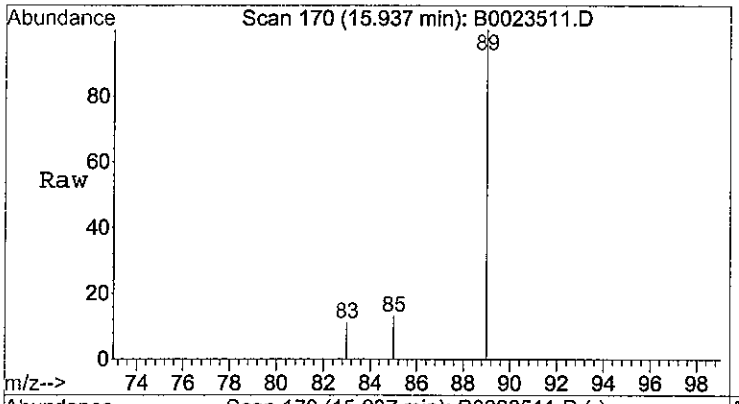
0001 7



#2
Perchlorate
Concen: 0.02 ug/L
RT: 15.94 min Scan# 170
Delta R.T. -0.59 min
Lab File: B0023511.D
Acq: 3 Nov 2011 1:26 pm

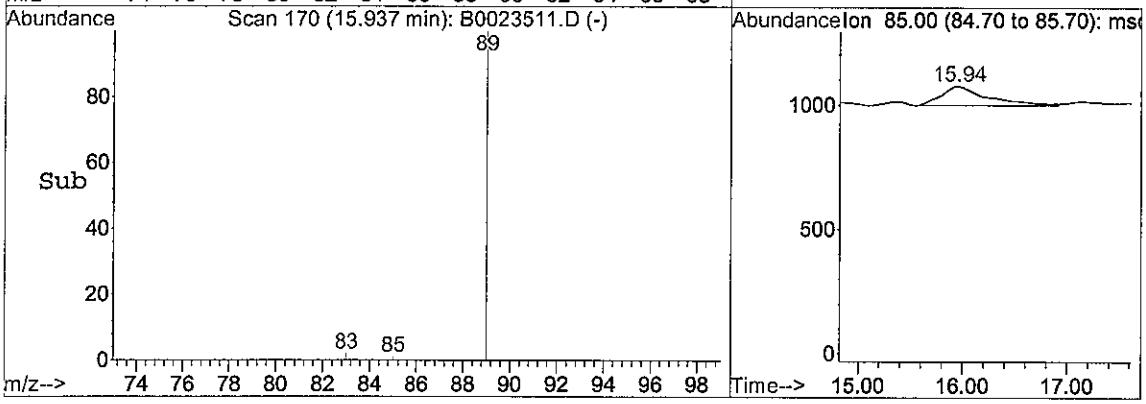
Tgt Ion: 83 Resp: 2970





#3
#2 perc ion
Concen: 0.04 ug/L
RT: 15.94 min Scan# 170
Delta R.T. -0.59 min
Lab File: B0023511.D
Acq: 3 Nov 2011 1:26 pm

Tgt Ion: 85 Resp: 2356



PERCHLORATE

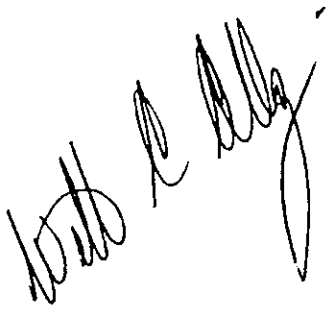
STANDARDS DATA

00019

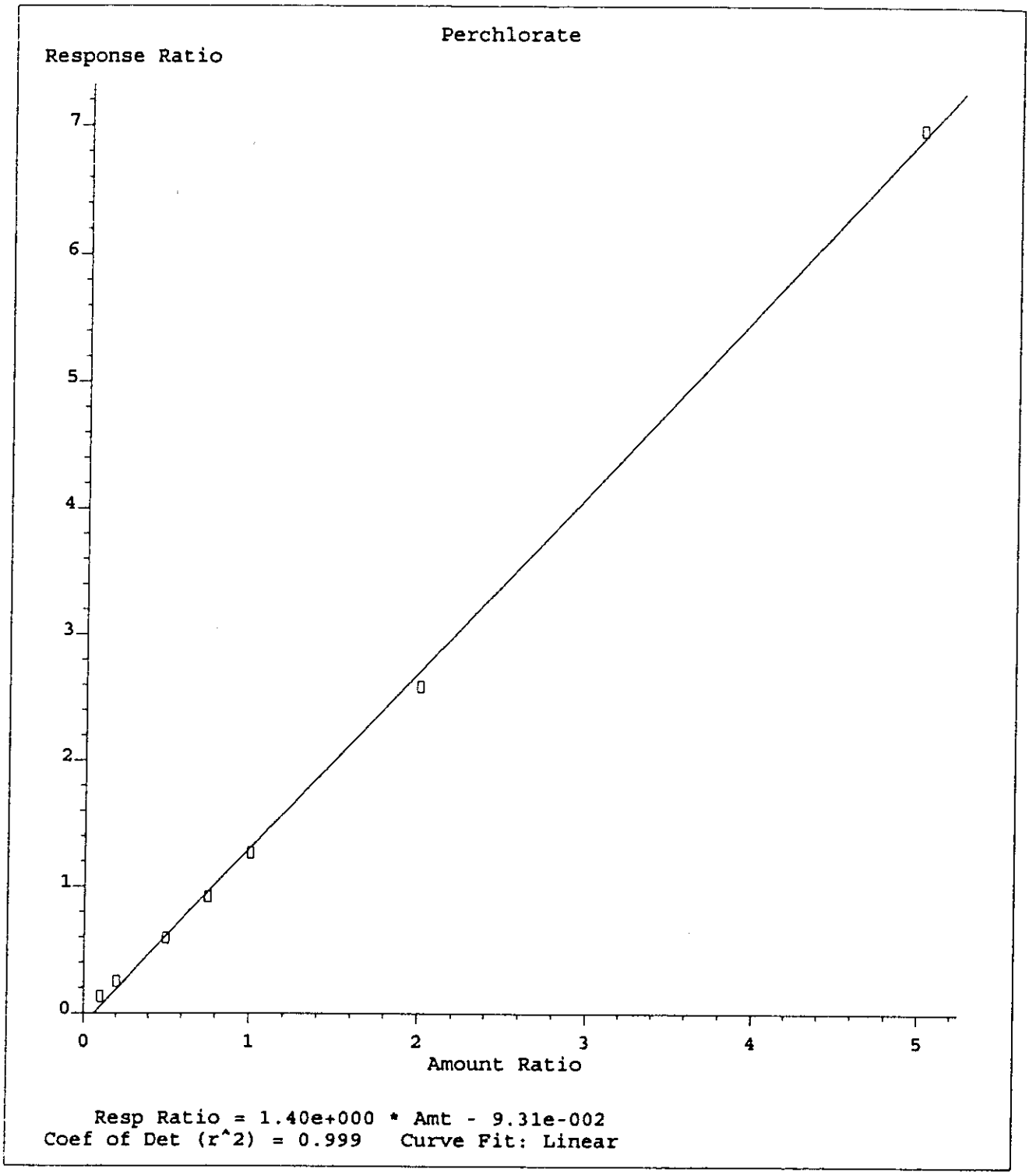
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 15:10:35 2011
Response via : Initial Calibration

Calibration Files
1 =B0022351.D 2 =B0022352.D 3 =B0022353.D
4 =B0022354.D 5 =B0022355.D 6 =B0022356.D

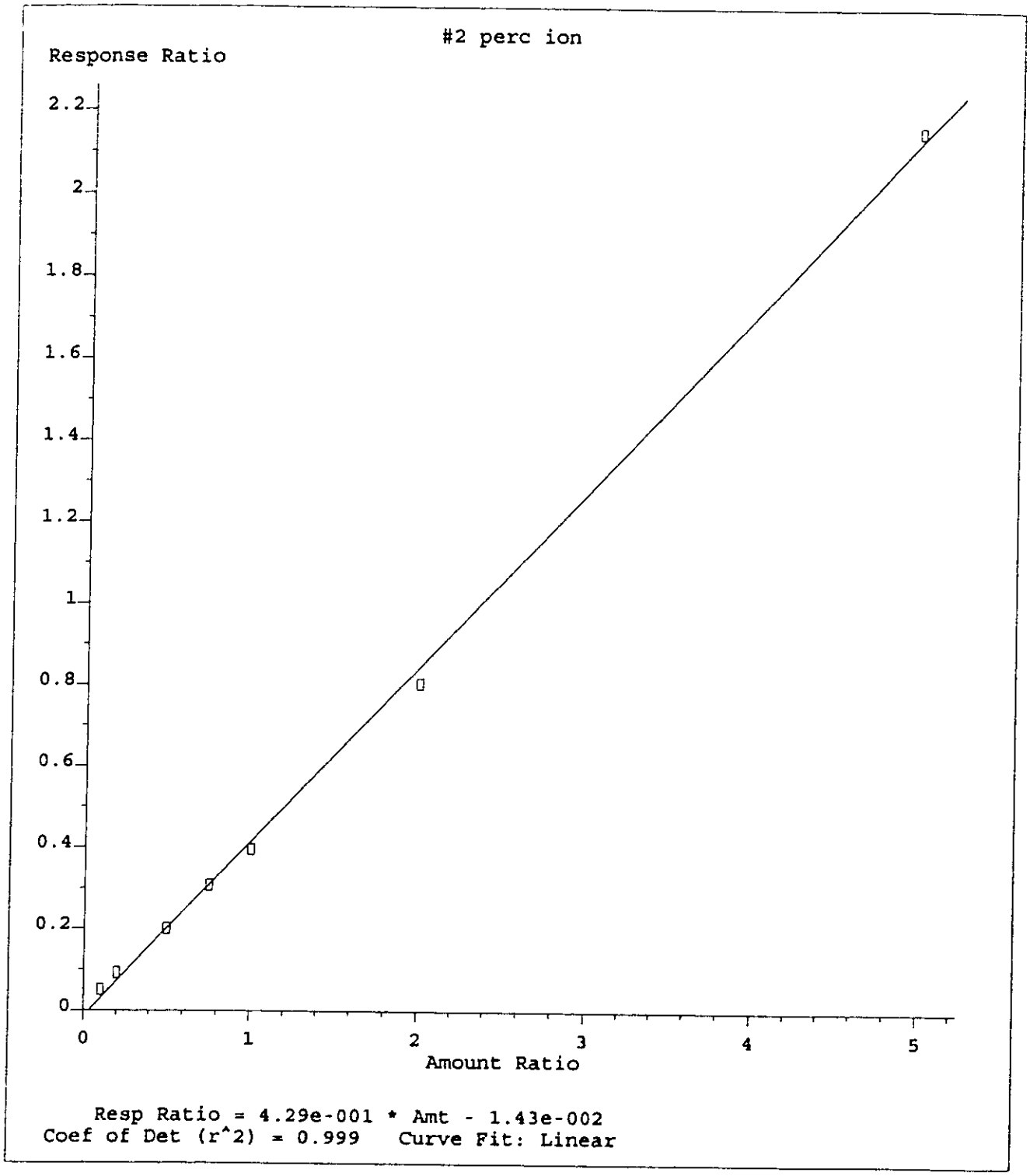
	Compound	1	2	3	4	5	6	Avg	%RSD
1)	O18LP	----------ISTD----------							
2)	Perchlorate	1.328	1.259	1.189	1.229	1.269	1.294	1.280	5.25
3)	#2 perc ion	0.514	0.460	0.401	0.409	0.395	0.402	0.430	10.02



(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: J:\ACQUDATA\HPLC02\METHODS\PERC0829.M
Calibration Table Last Updated: Mon Aug 29 15:12:02 2011



Method Name: J:\ACQUDATA\HPLC02\METHODS\PERC0829.M
Calibration Table Last Updated: Mon Aug 29 15:11:14 2011

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:03 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) O18LP	14.57	89	272071	1.00 ug/L	0.61
Target Compounds					Qvalue
2) Perchlorate	14.61	83	36141m	0.11 ug/L	
3) #2 perc ion	14.61	85	13972m	0.12 ug/L	

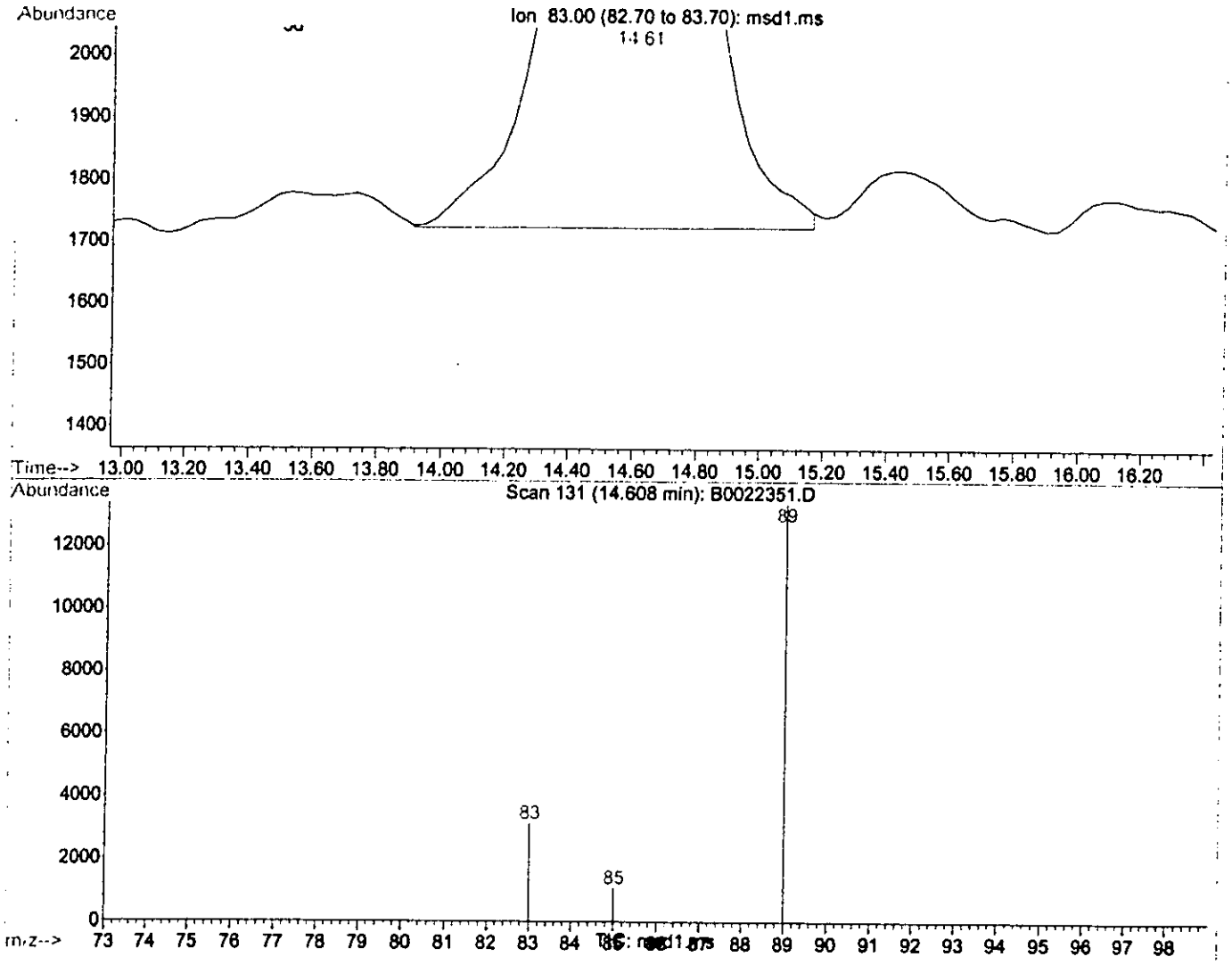
Ratio
2.59

BA
8/29

(#) = qualifier out of range (m) = manual integration
B0022351.D PERC0829.M Mon Aug 29 14:03:45 2011

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(2) Perchlorate

14.61min 0.11ug/L

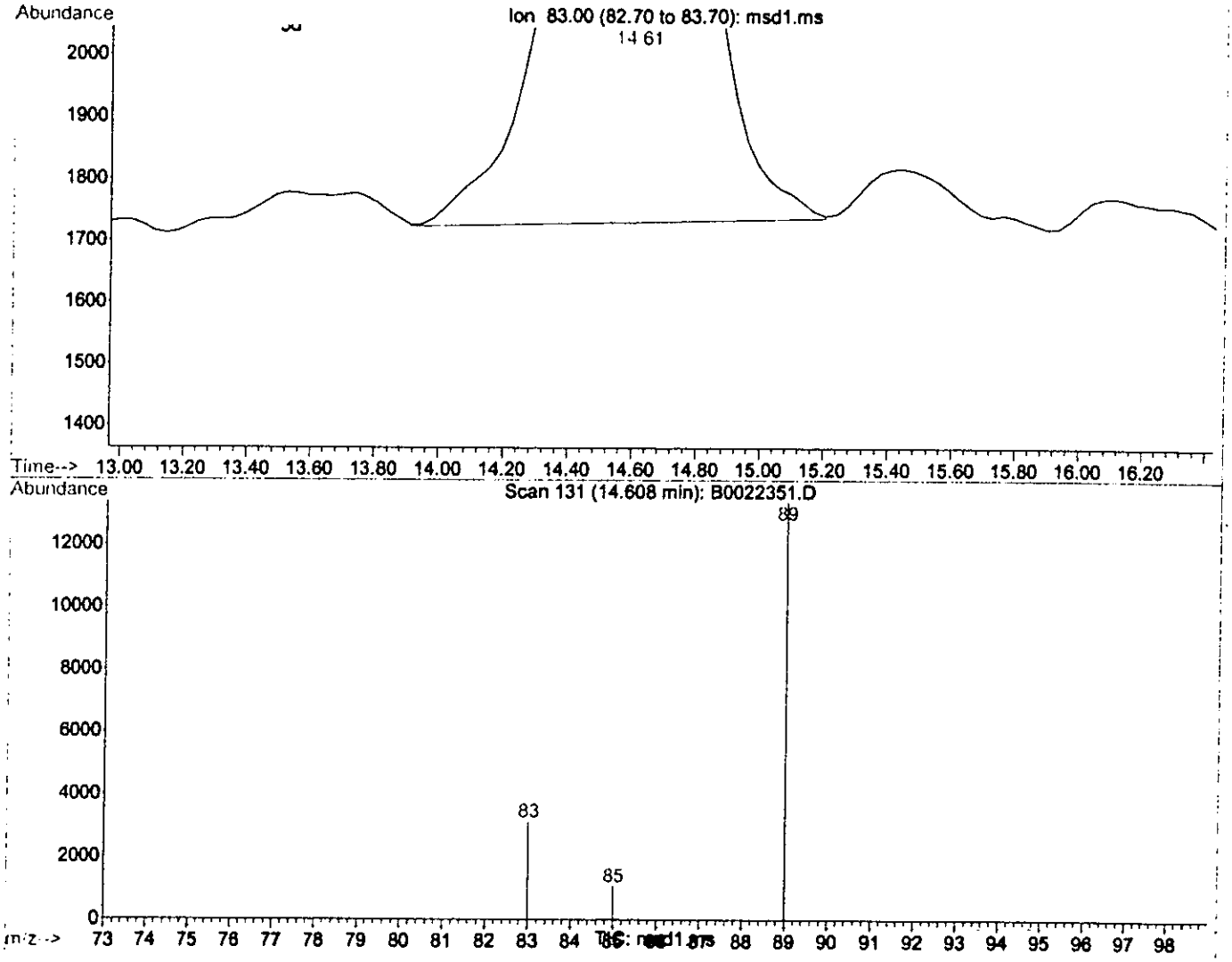
response 36684

Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:03 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(2) Perchlorate

14.61min 0.11ug/L m

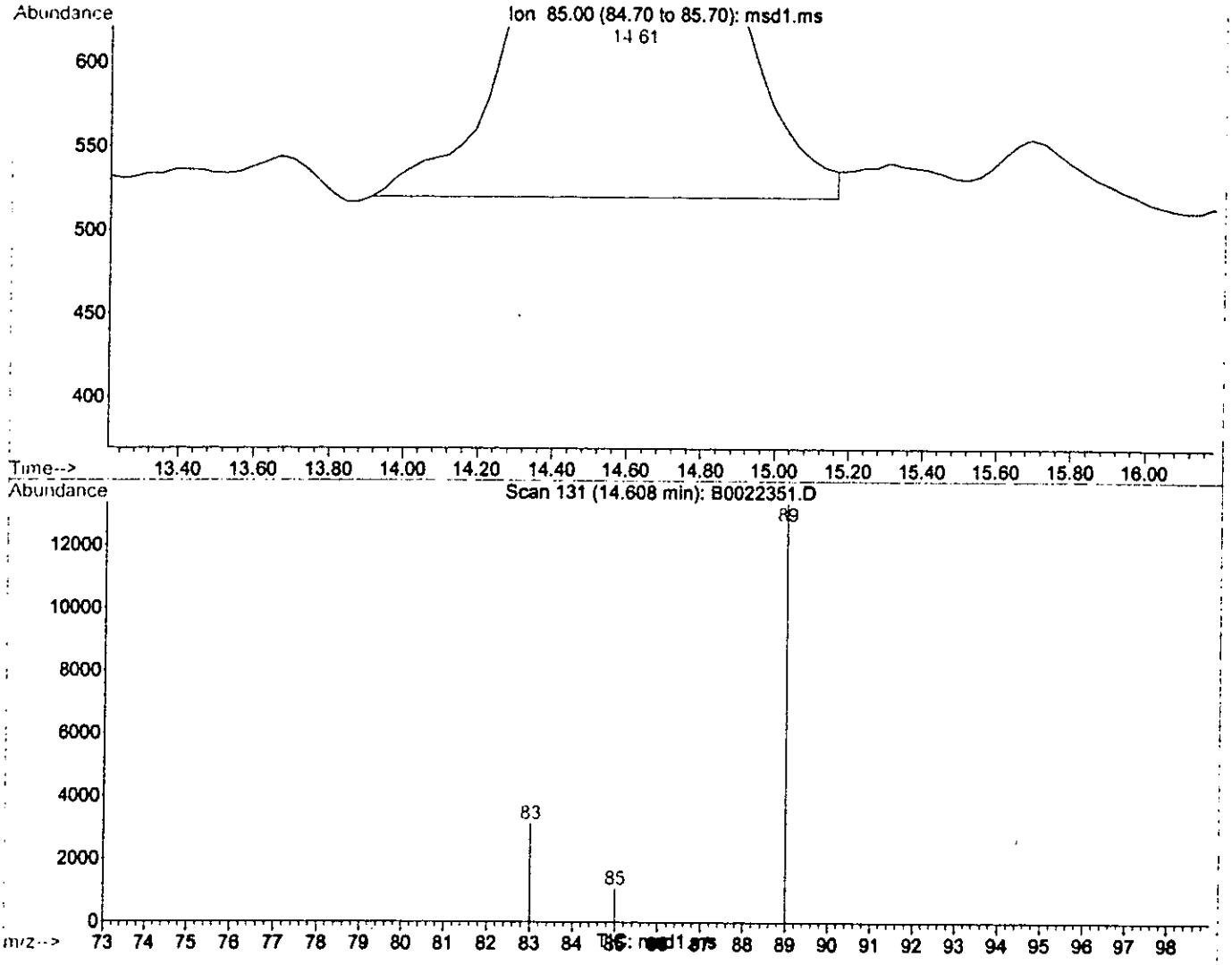
response 36141

Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD INT)

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:03 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(3) #2 perc Ion

14.61min 0.12ug/L

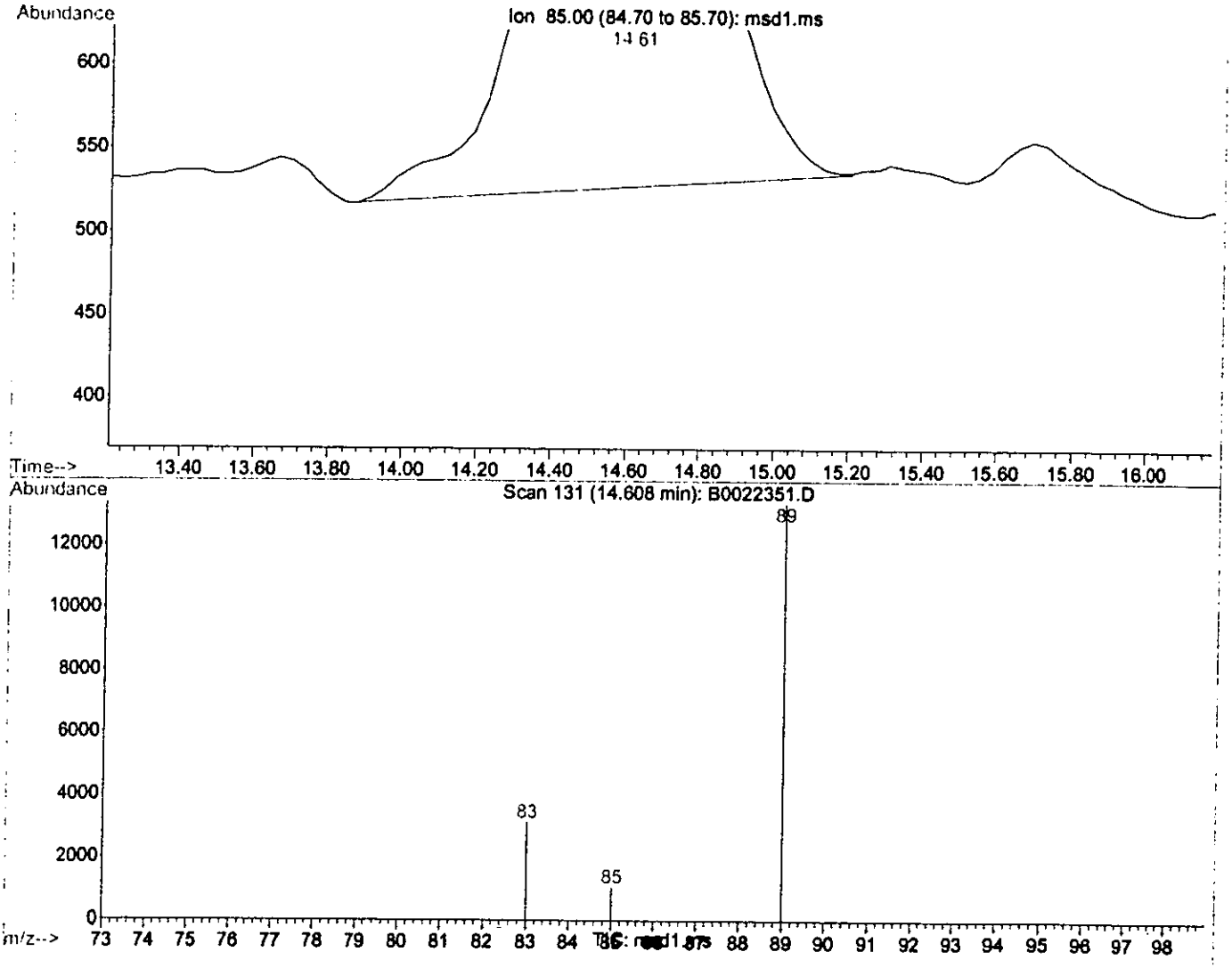
response 14417

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:03 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(3) #2 perc ion

14.61min 0.12ug/L m

response 13972

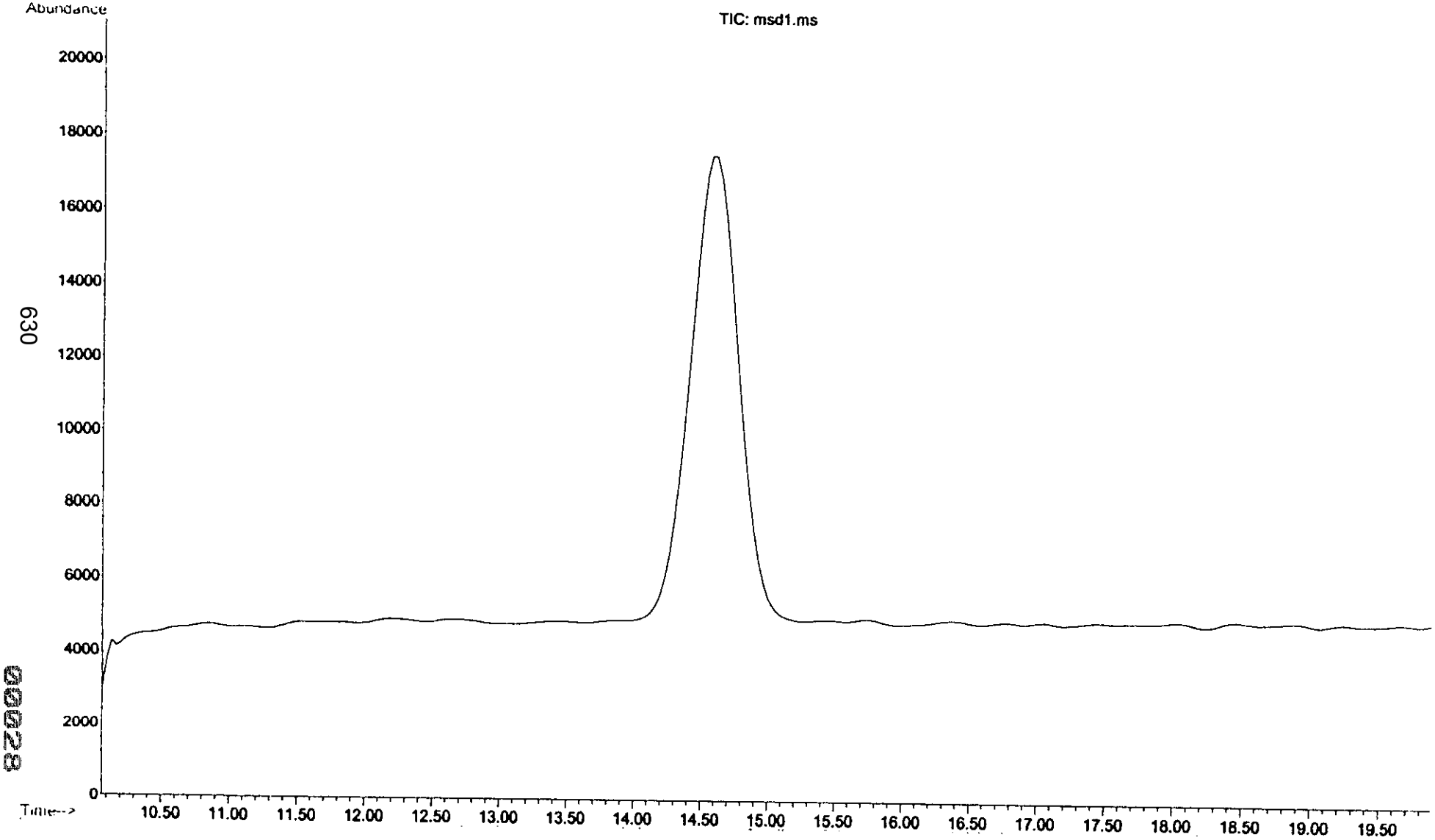
Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD Dat.)

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:03 2011 Quant Results File: PERC0829.RES

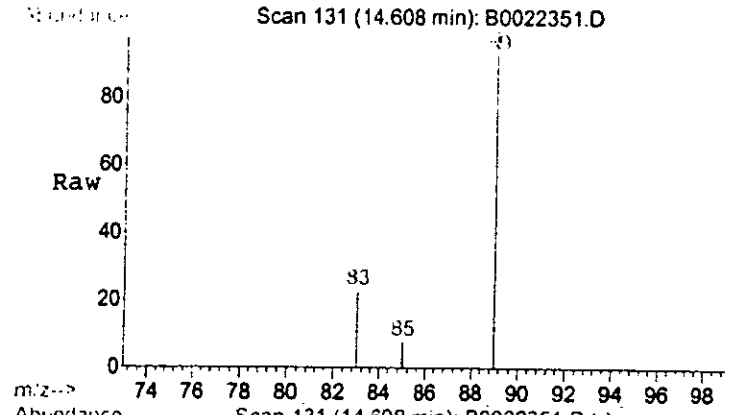
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration



630

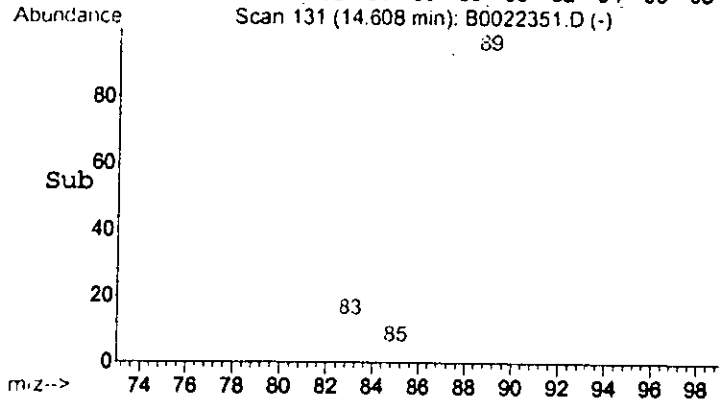
82008

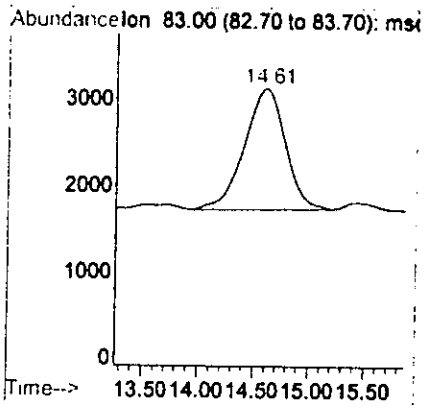
B0022351.D PERC0829.M Mon Aug 29 14:03:46 2011

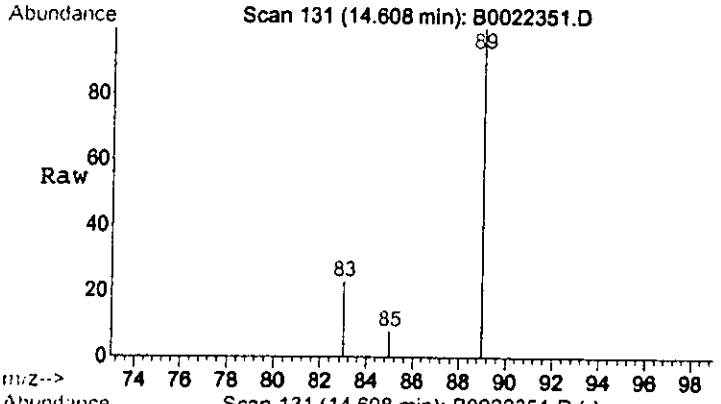


#2
Perchlorate
Concen: 0.11 ug/L m
RT: 14.61 min Scan# 131
Delta R.T. 0.64 min
Lab File: B0022351.D
Acq: 29 Aug 2011 12:37 pm

Tgt Ion: 83 Resp: 36141

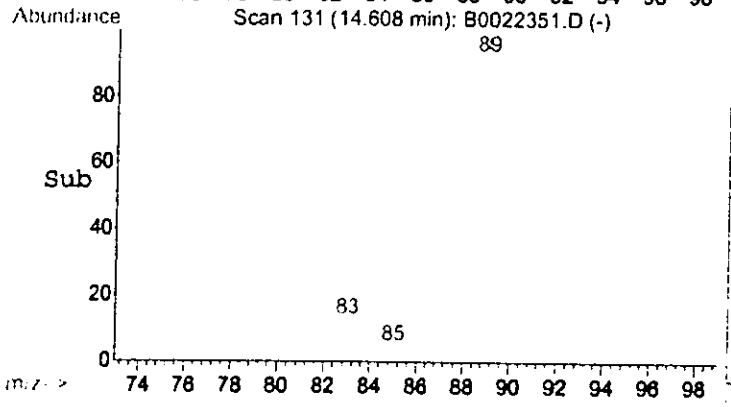


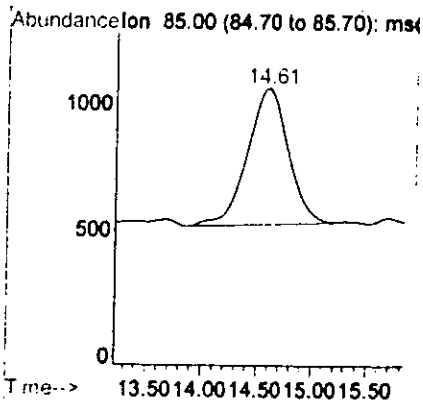




#3
#2 perc ion
Concen: 0.12 ug/L m
RT: 14.61 min Scan# 131
Delta R.T. 0.64 min
Lab File: B0022351.D
Acq: 29 Aug 2011 12:37 pm

Tgt Ion: 85 Resp: 13972





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.57	89	272071	1.00	ug/L	0.61
Target Compounds						Qvalue
2) Perchlorate	14.61	83	36684	0.11	ug/L	100
3) #2 perc ion	14.61	85	14417	0.12	ug/L	100

Ratio
2.54

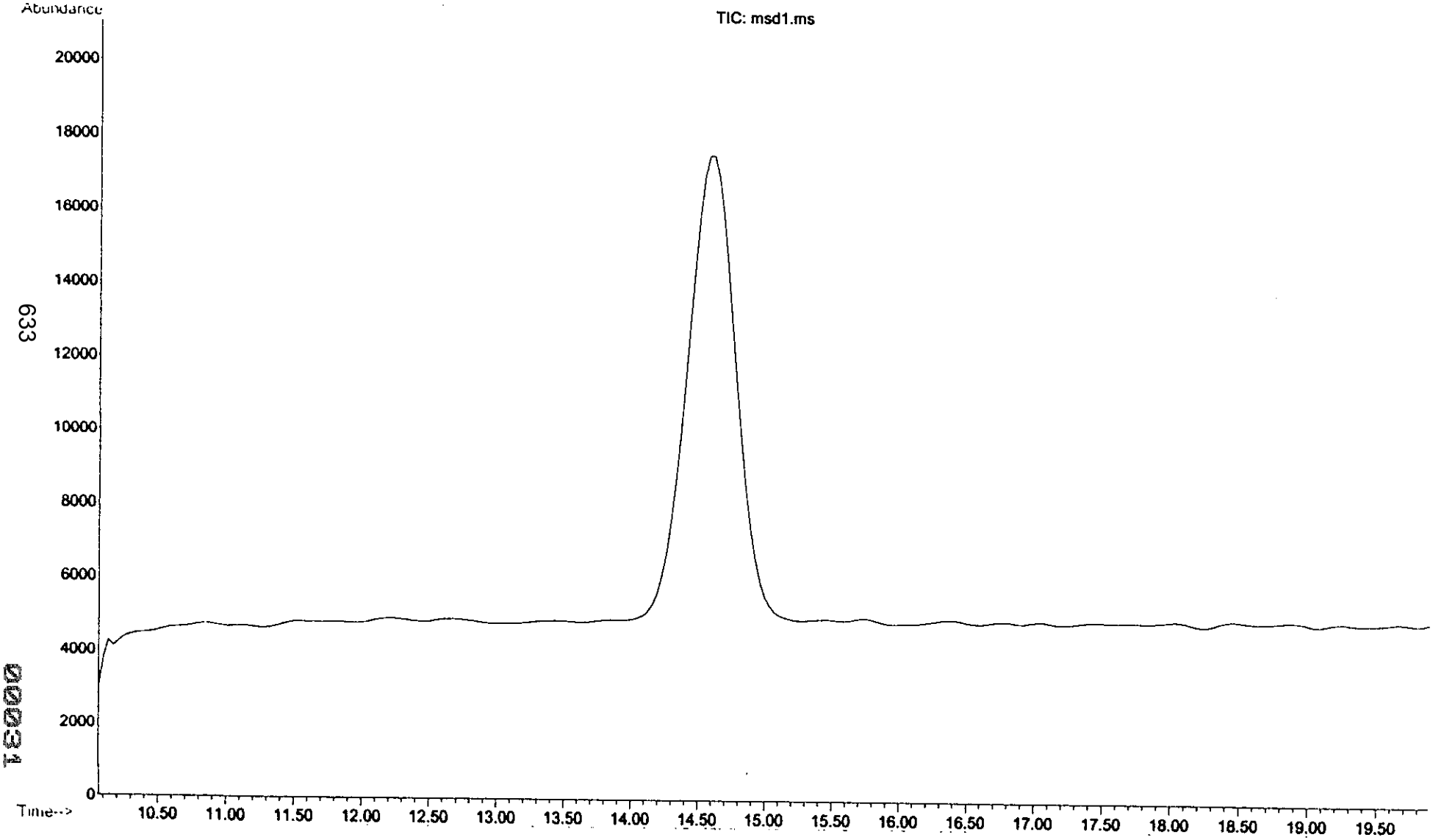
Orig. JAC

(#) = qualifier out of range (m) = manual integration
B0022351.D PERC0829.M Mon Aug 29 14:02:35 2011 Page 1

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D Vial: 2
Acq On : 29 Aug 2011 12:37 pm Operator: B.ALLGEIER
Sample : std1 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

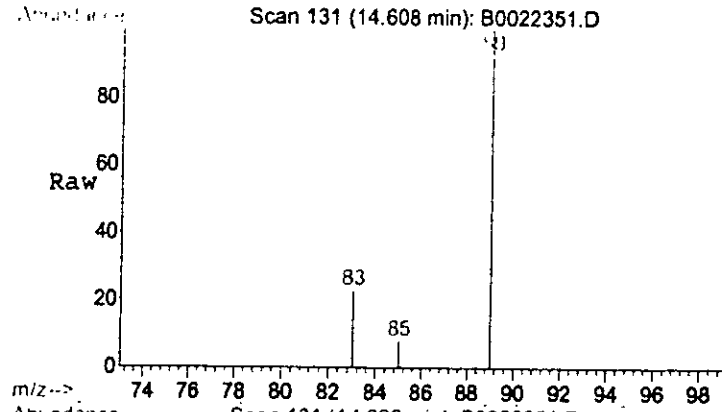
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration



633

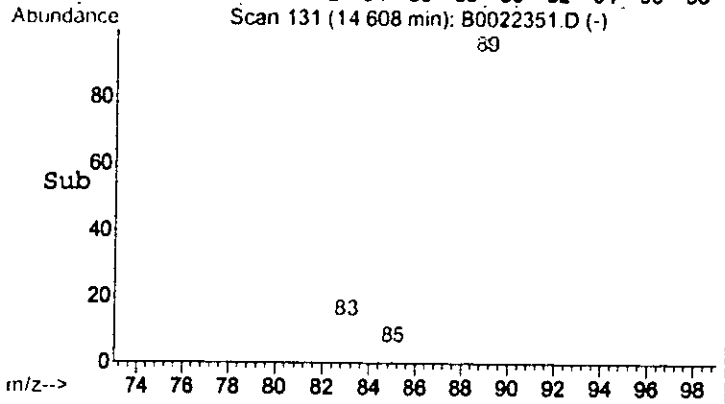
090831

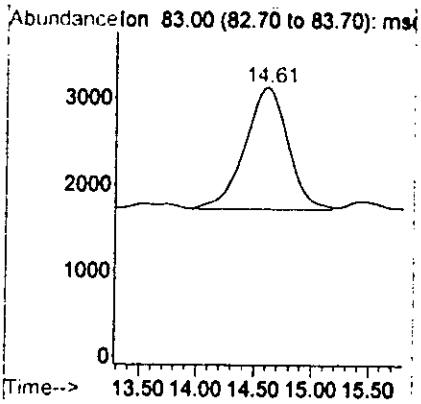
B0022351.D PERC0829.M Mon Aug 29 14:02:36 2011

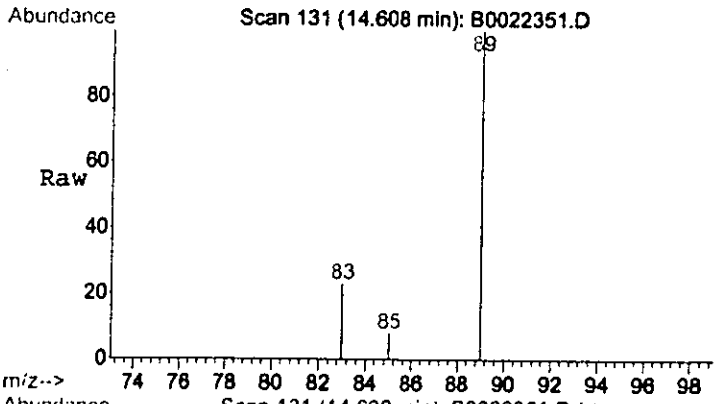


#2
Perchlorate
Concen: 0.11 ug/L
RT: 14.61 min Scan# 131
Delta R.T. 0.64 min
Lab File: B0022351.D
Acq: 29 Aug 2011 12:37 pm

Tgt Ion: 83 Resp: 36684

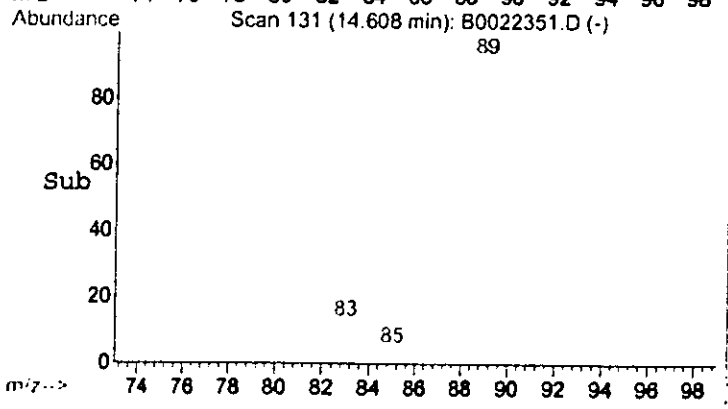


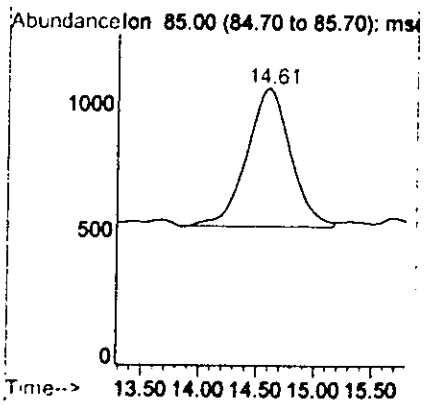




#3
#2 perc ion
Concen: 0.12 ug/L
RT: 14.61 min Scan# 131
Delta R.T. 0.64 min
Lab File: B0022351.D
Acq: 29 Aug 2011 12:37 pm

Tgt Ion: 85 Resp: 14417





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022352.D Vial: 3
Acq On : 29 Aug 2011 12:58 pm Operator: B.ALLGEIER
Sample : std2 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.54	89	275950	1.00	ug/L	0.57
Target Compounds						Qvalue
2) Perchlorate	14.54	83	69501	0.20	ug/L	100
3) #2 perc ion	14.54	85	25363	0.22	ug/L	100

Ratio
2.74

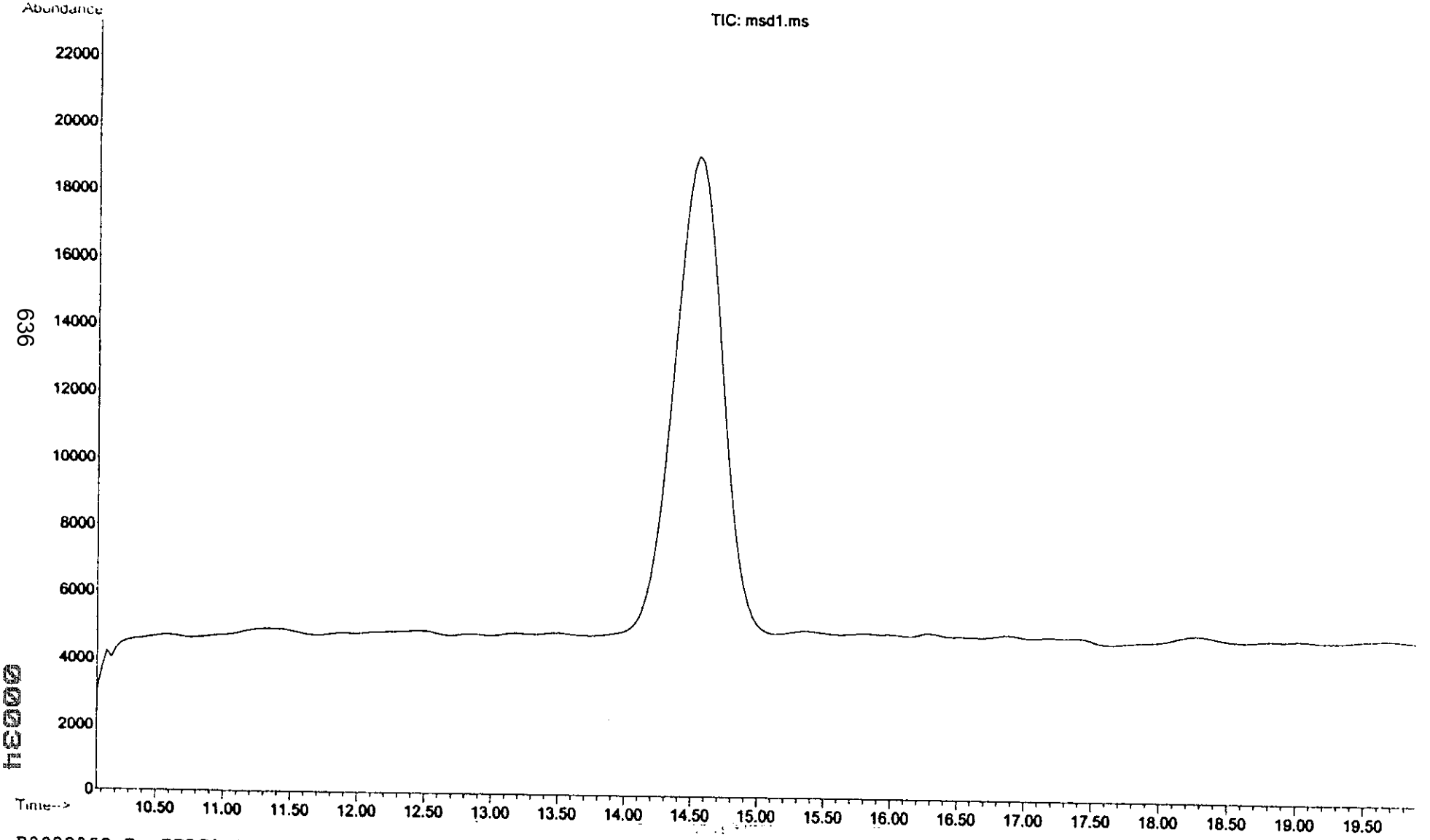
BA
8/29

(#) = qualifier out of range (m) = manual integration
B0022352.D PERC0829.M Mon Aug 29 14:02:40 2011 00033 Page 1

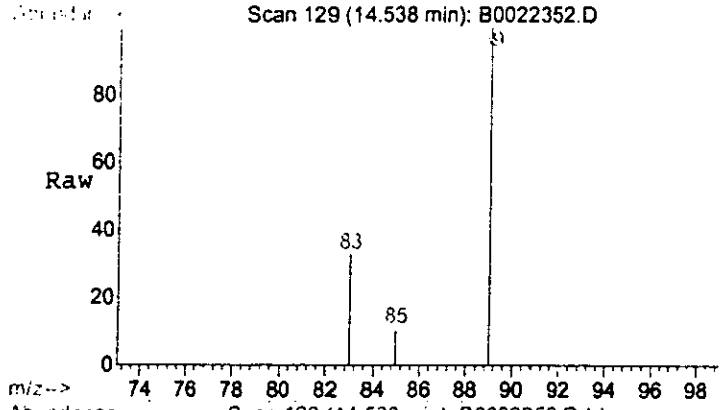
Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022352.D Vial: 3
Acq On : 29 Aug 2011 12:58 pm Operator: B.ALLGEIER
Sample : std2 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration

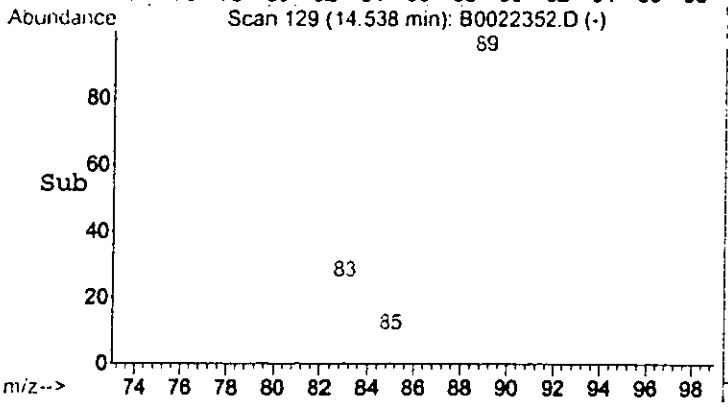


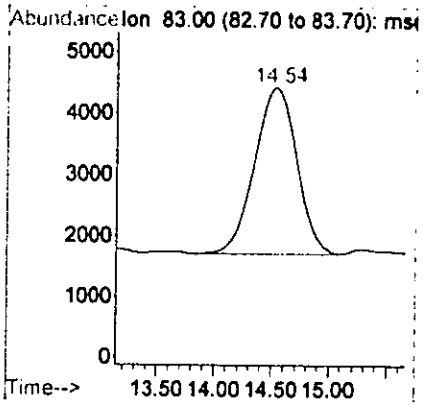
B0022352.D PERC0829.M Mon Aug 29 14:02:41 2011

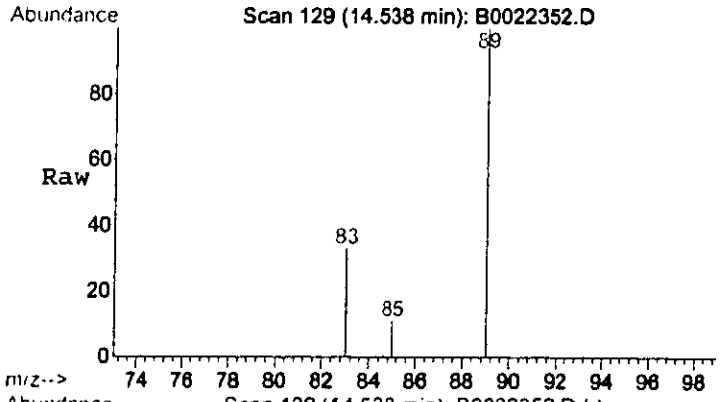


#2
Perchlorate
Concen: 0.20 ug/L
RT: 14.54 min Scan# 129
Delta R.T. 0.57 min
Lab File: B0022352.D
Acq: 29 Aug 2011 12:58 pm

Tgt Ion: 83 Resp: 69501

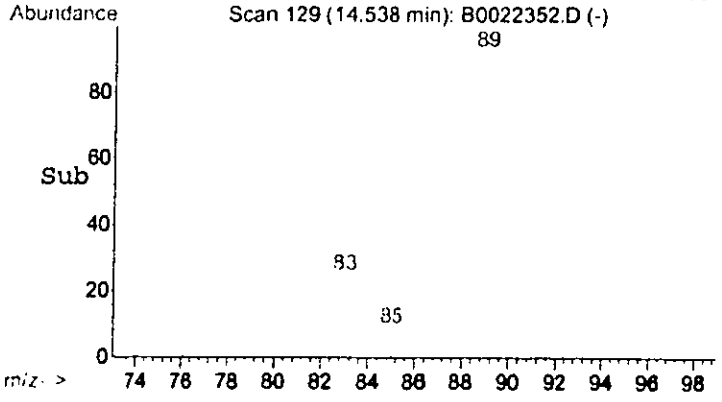


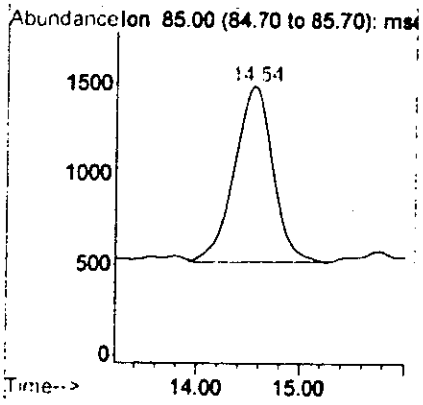




#3
#2 perc ion
Concen: 0.22 ug/L
RT: 14.54 min Scan# 129
Delta R.T. 0.57 min
Lab File: B0022352.D
Acq: 29 Aug 2011 12:58 pm

Tgt Ion: 85 Resp: 25363





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:04 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.54	89	278678	1.00	ug/L	0.57
Target Compounds						Qvalue
2) Perchlorate	14.50	83	165608m	0.47	ug/L	
3) #2 perc ion	14.54	85	55909m	0.47	ug/L	

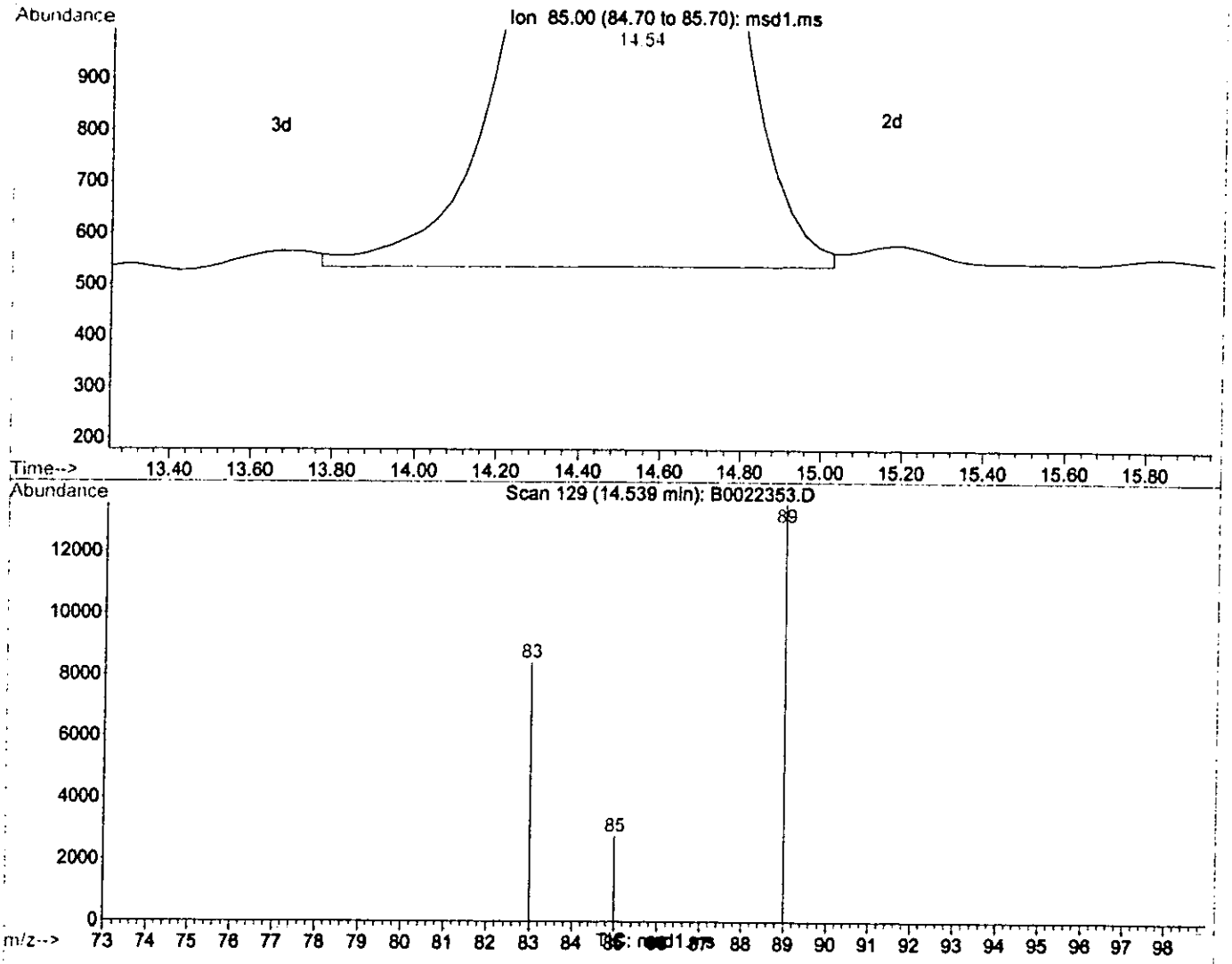
Ratio
2.96

BA
8/29

(#) = qualifier out of range (m) = manual integration
B0022353.D PERC0829.M Mon Aug 29 14:04:47 2011 00036 Page 1

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(3) #2 perc ion

14.54min 0.48ug/L

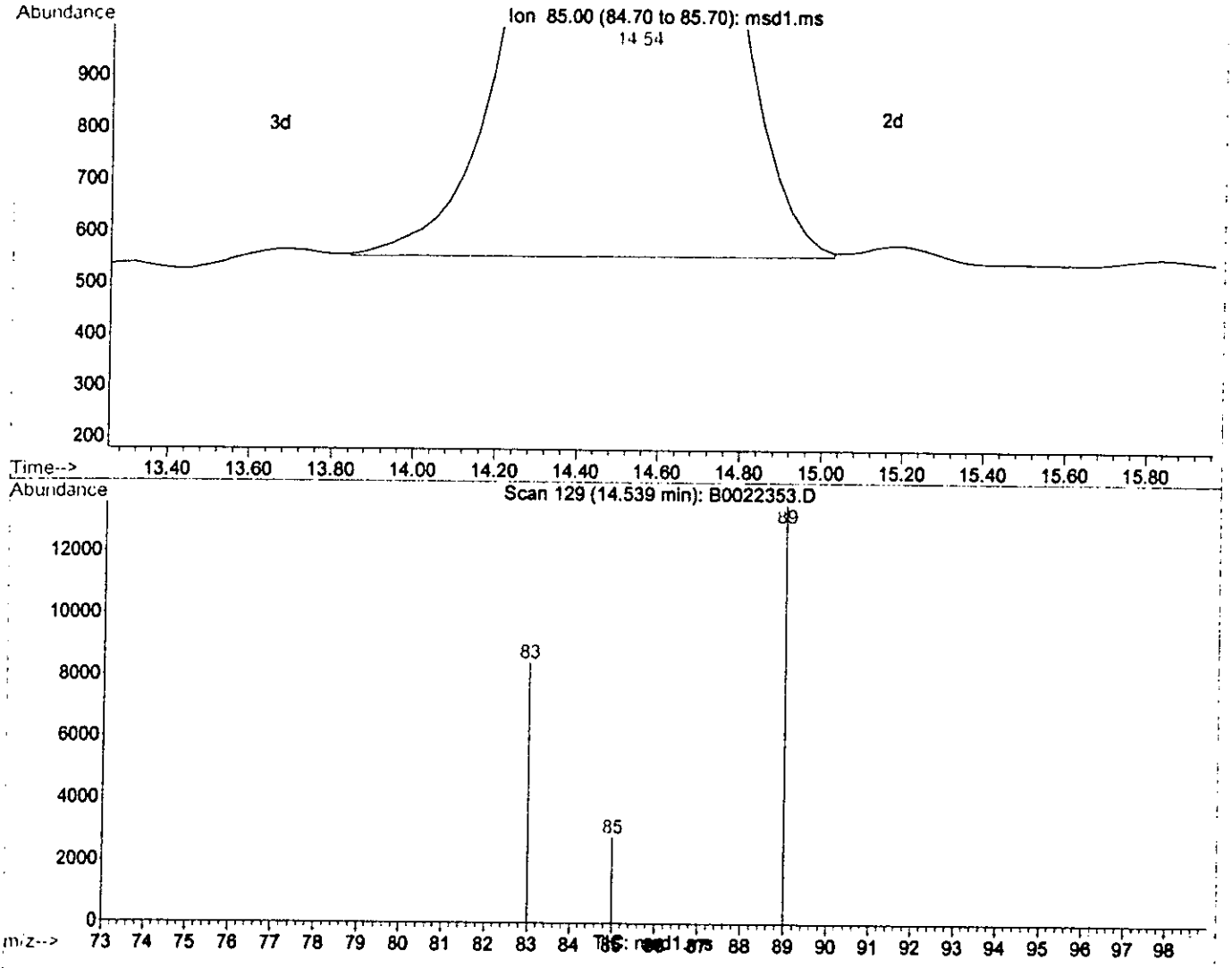
response 57315

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:04 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(3) #2 perc ion

14.54min 0.47ug/L m

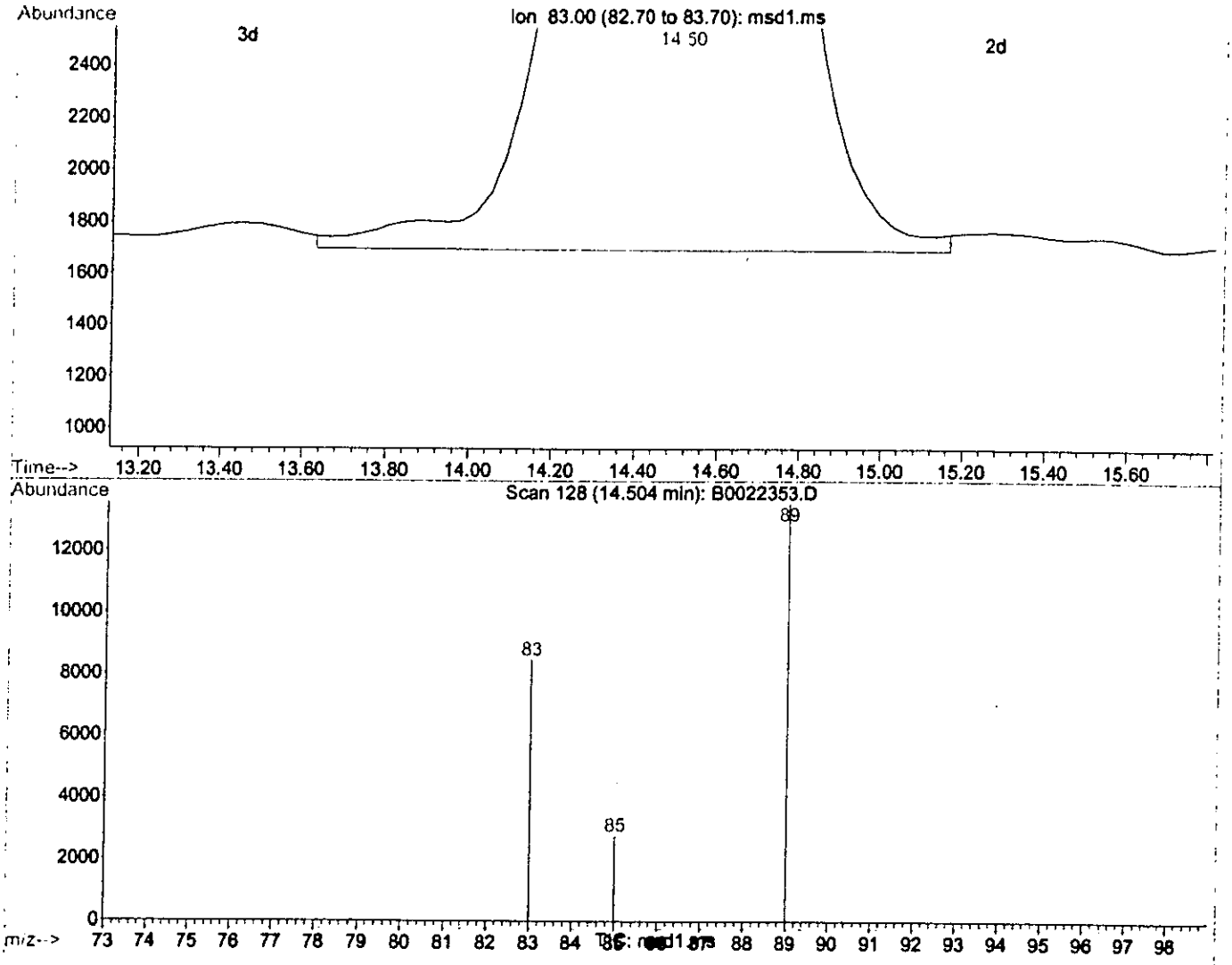
response 55909

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD Dup)

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:04 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(2) Perchlorate

14.50min 0.49ug/L

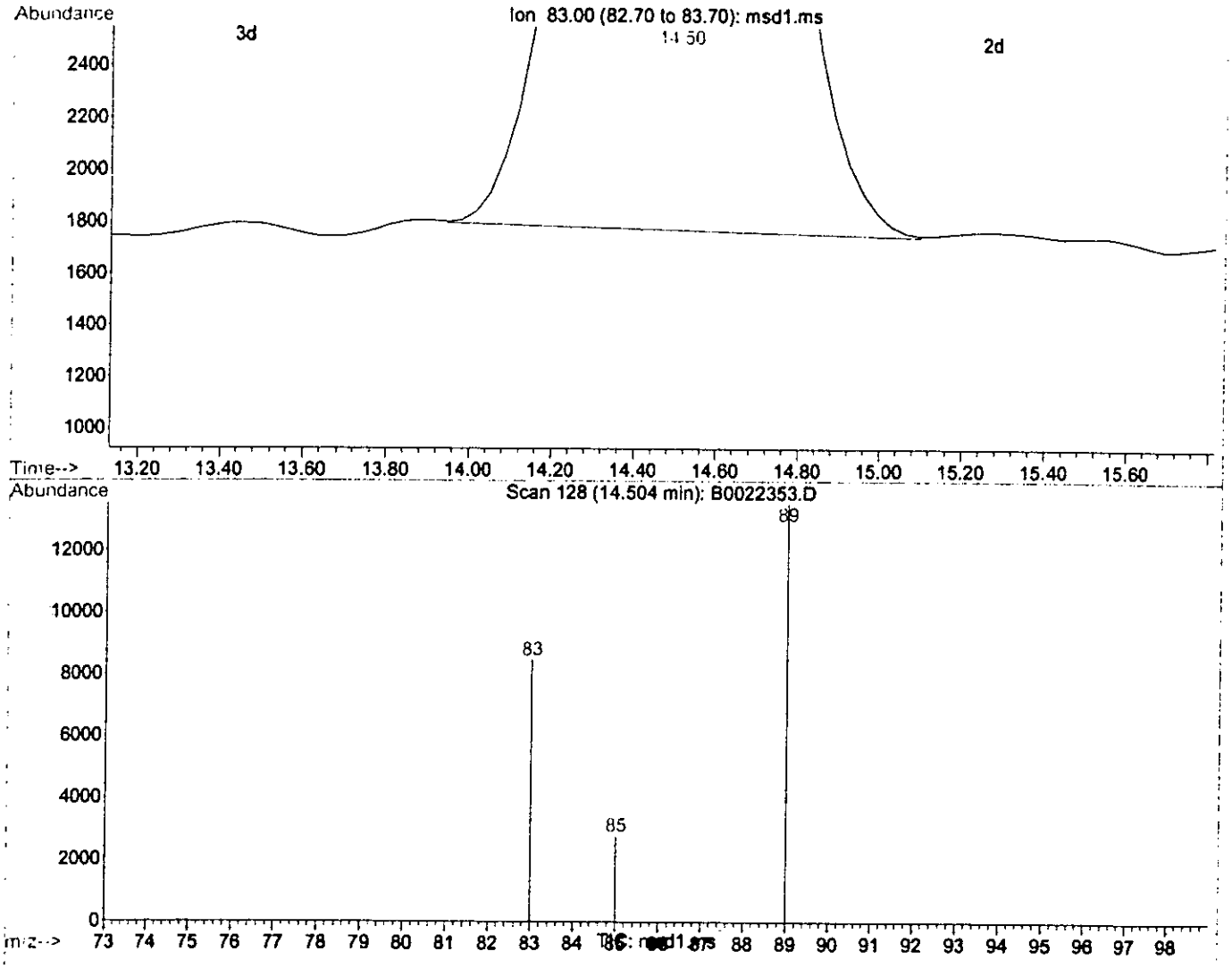
response 172607

Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:04 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Multiple Level Calibration



(2) Perchlorate

14.50min 0.47ug/L m

response 165608

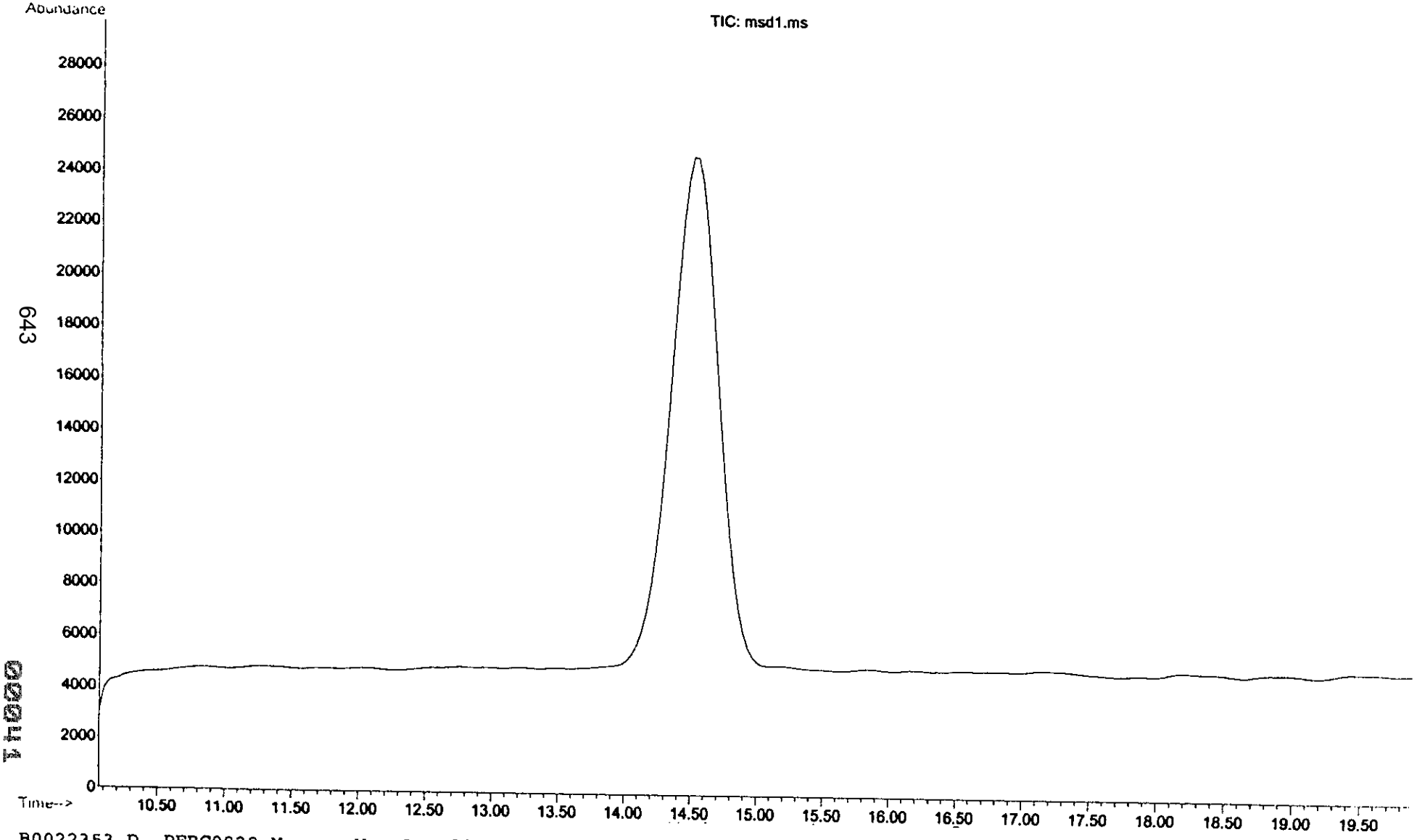
Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD QT)

Quantitation Report

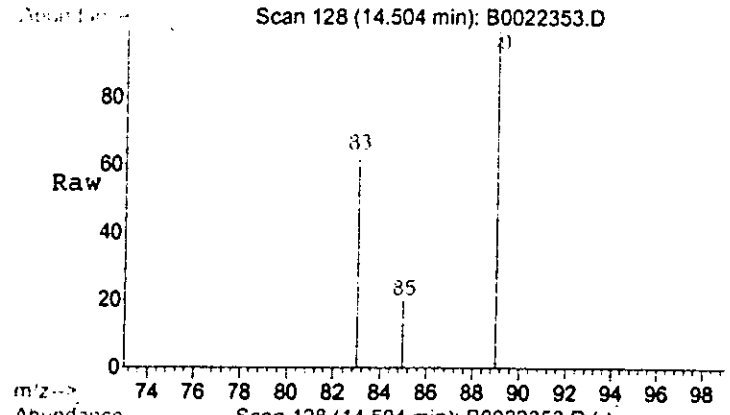
Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:04 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration



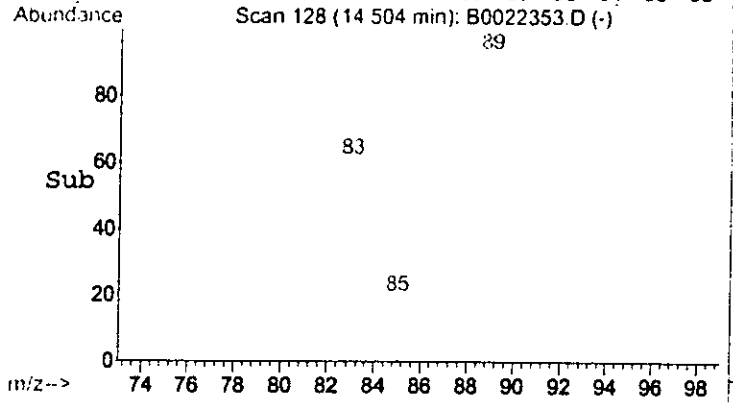
643

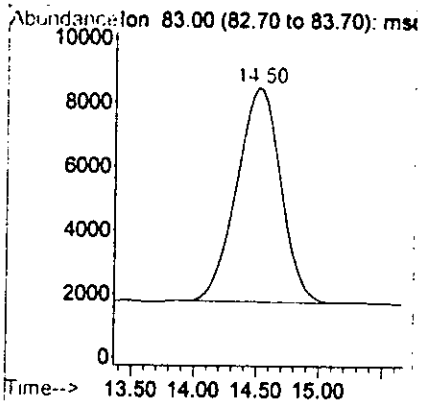
B0022353.D PERC0829.M Mon Aug 29 14:04:48 2011

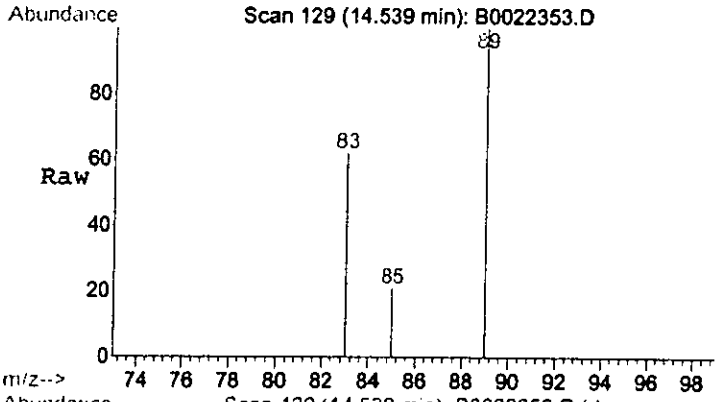


#2
Perchlorate
Concen: 0.47 ug/L m
RT: 14.50 min Scan# 128
Delta R.T. 0.54 min
Lab File: B0022353.D
Acq: 29 Aug 2011 1:20 pm

Tgt Ion: 83 Resp: 165608

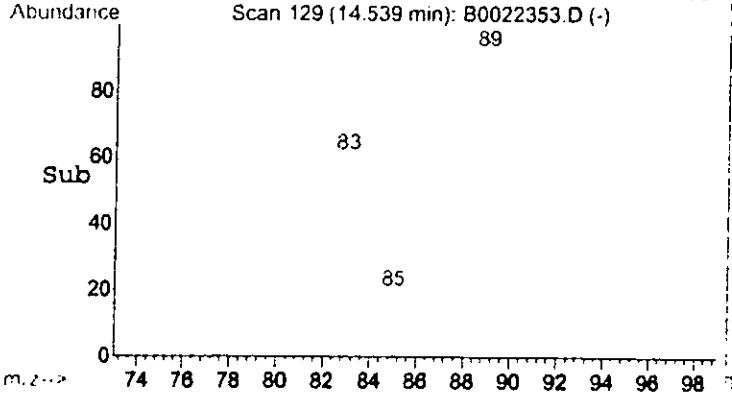


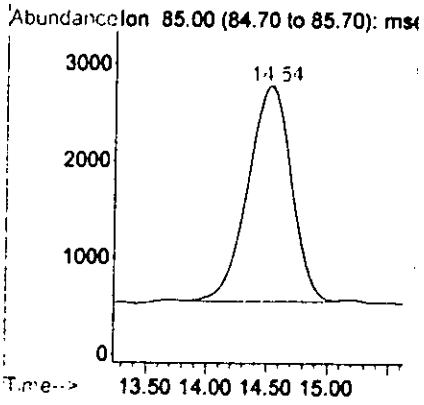




#3
#2 perc ion
Concen: 0.47 ug/L m
RT: 14.54 min Scan# 129
Delta R.T. 0.57 min
Lab File: B0022353.D
Acq: 29 Aug 2011 1:20 pm

Tgt Ion: 85 Resp: 55909





Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.54	89	278678	1.00	ug/L	0.57
Target Compounds						Qvalue
2) Perchlorate	14.50	83	172607	0.49	ug/L	100
3) #2 perc ion	14.54	85	57315	0.48	ug/L	100

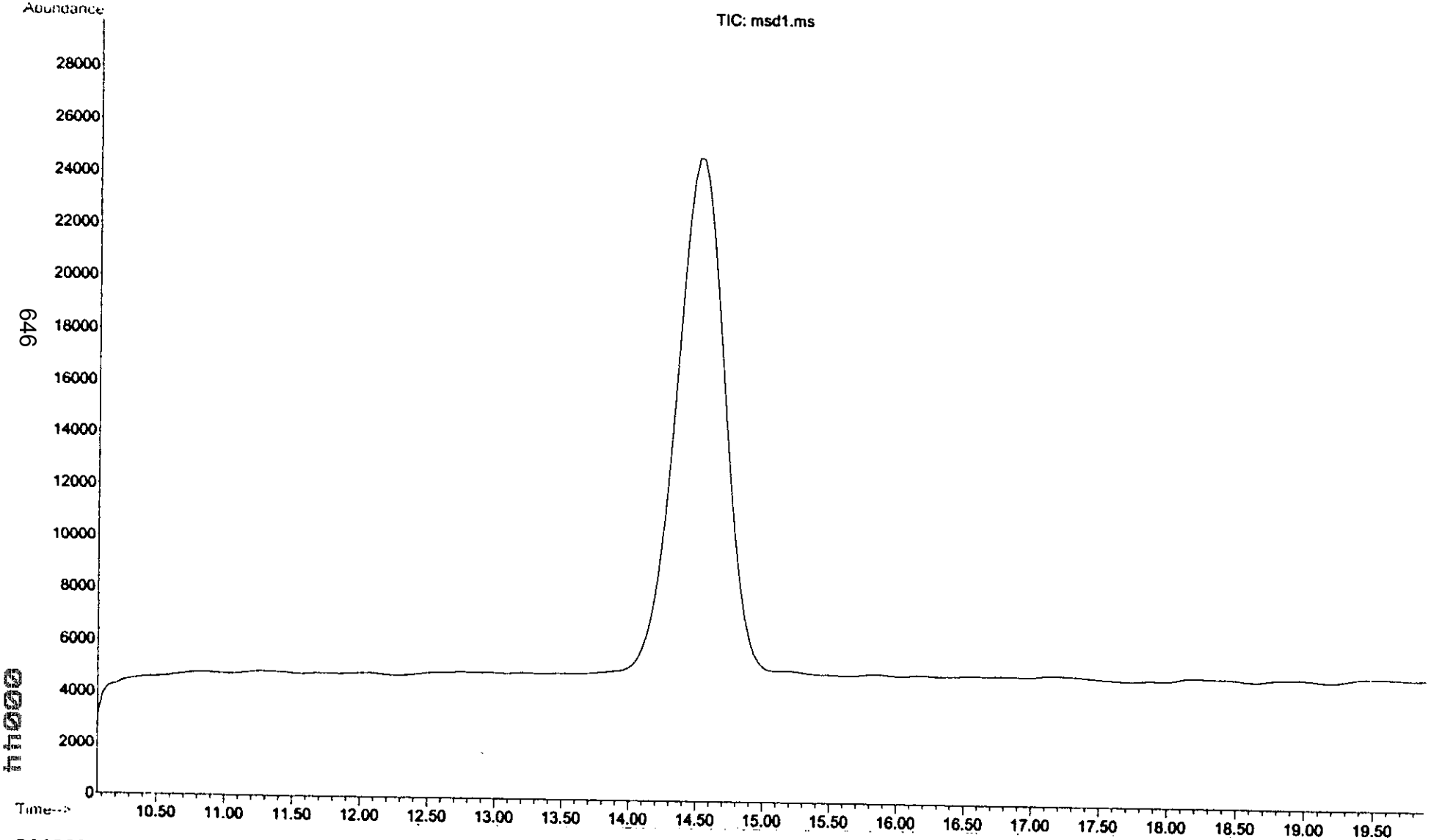
Ratio
3.01

(#) = qualifier out of range (m) = manual integration
B0022353.D PERC0829.M Mon Aug 29 14:02:44 2011

Quantitation Report

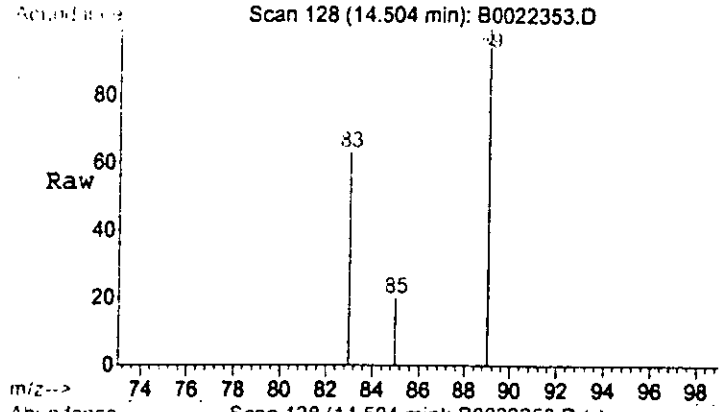
Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D Vial: 4
Acq On : 29 Aug 2011 1:20 pm Operator: B.ALLGEIER
Sample : std3 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration



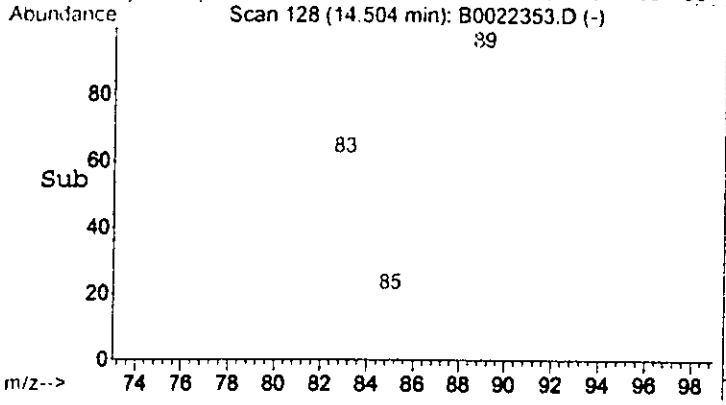
646

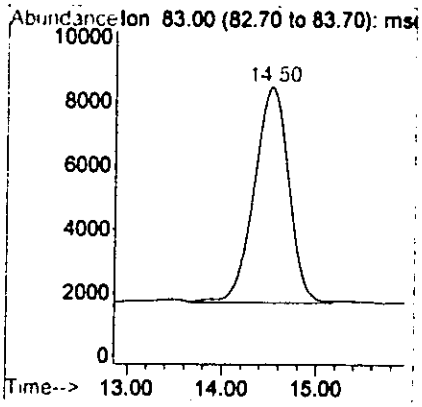
B0022353.D PERC0829.M Mon Aug 29 14:02:45 2011

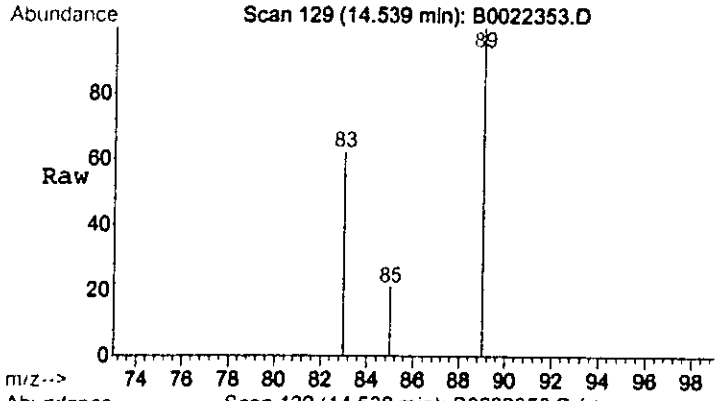


#2
Perchlorate
Concen: 0.49 ug/L
RT: 14.50 min Scan# 128
Delta R.T. 0.54 min
Lab File: B0022353.D
Acq: 29 Aug 2011 1:20 pm

Tgt Ion: 83 Resp: 172607

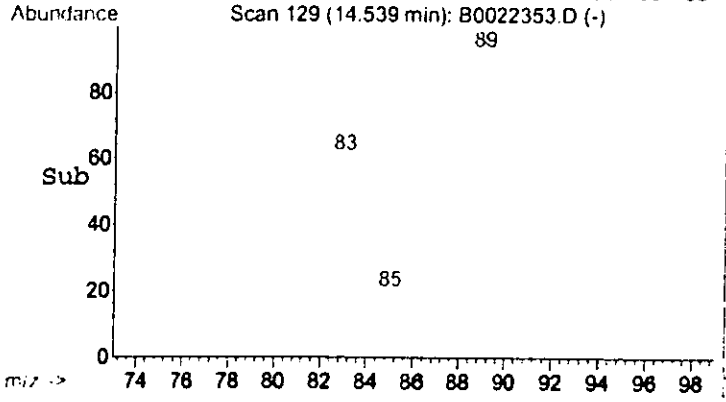


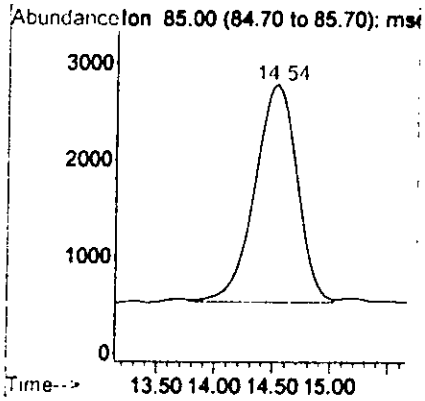




#3
#2 perc ion
Concen: 0.48 ug/L
RT: 14.54 min Scan# 129
Delta R.T. 0.57 min
Lab File: B0022353.D
Acq: 29 Aug 2011 1:20 pm

Tgt Ion: 85 Resp: 57315





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:00 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.57	89	273652m	1.00	ug/L	0.02
Target Compounds						Qvalue
2) Perchlorate	14.54	83	252139m	0.73	ug/L	
3) #2 perc ion	14.57	85	84038m	0.67	ug/L	

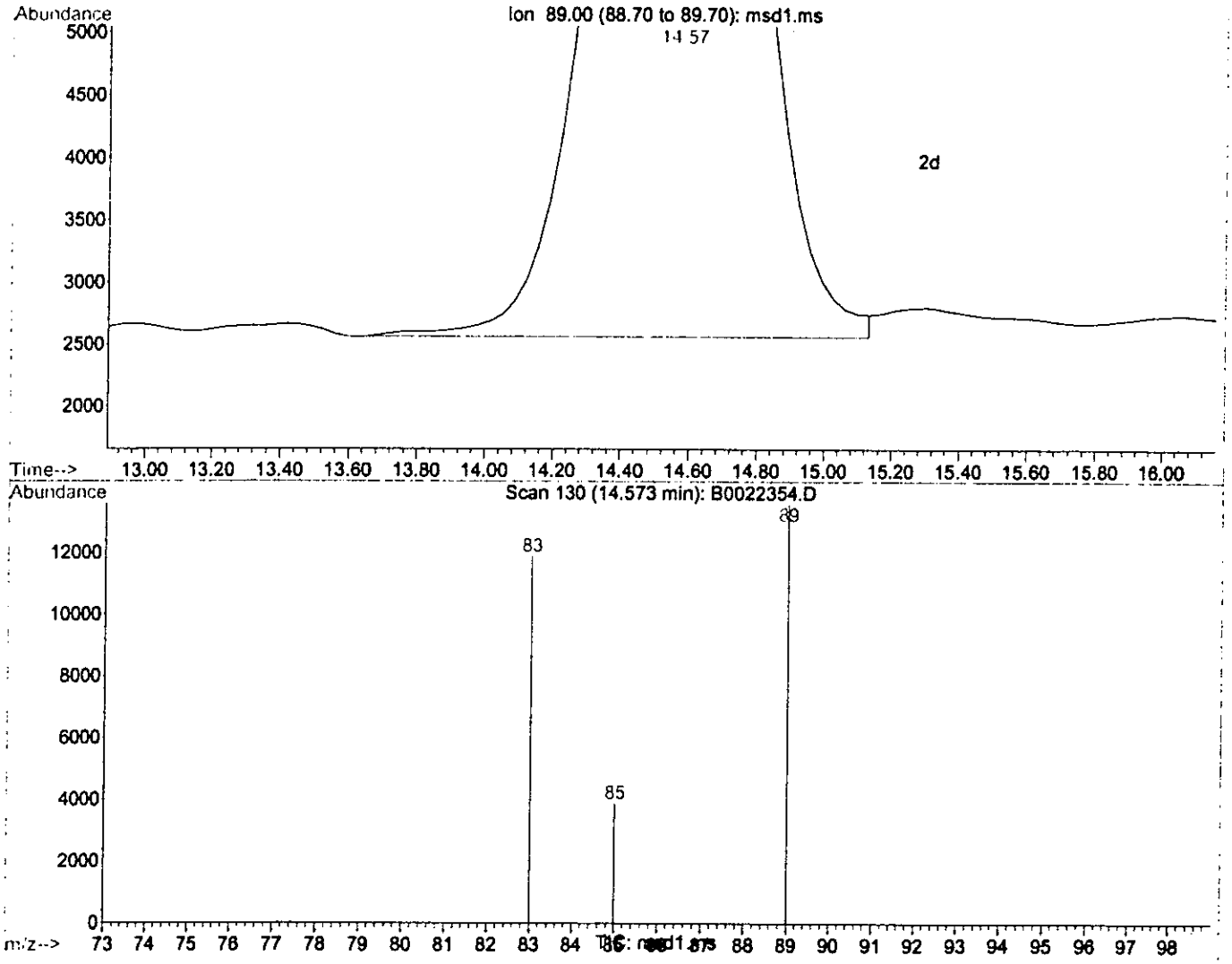
Ratio
3.00

BA
8/29

(#) = qualifier out of range (m) = manual integration
B0022354.D PERC0829.M Mon Aug 29 15:00:51 2011

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(1) O18LP

14.57min 1.00ug/L

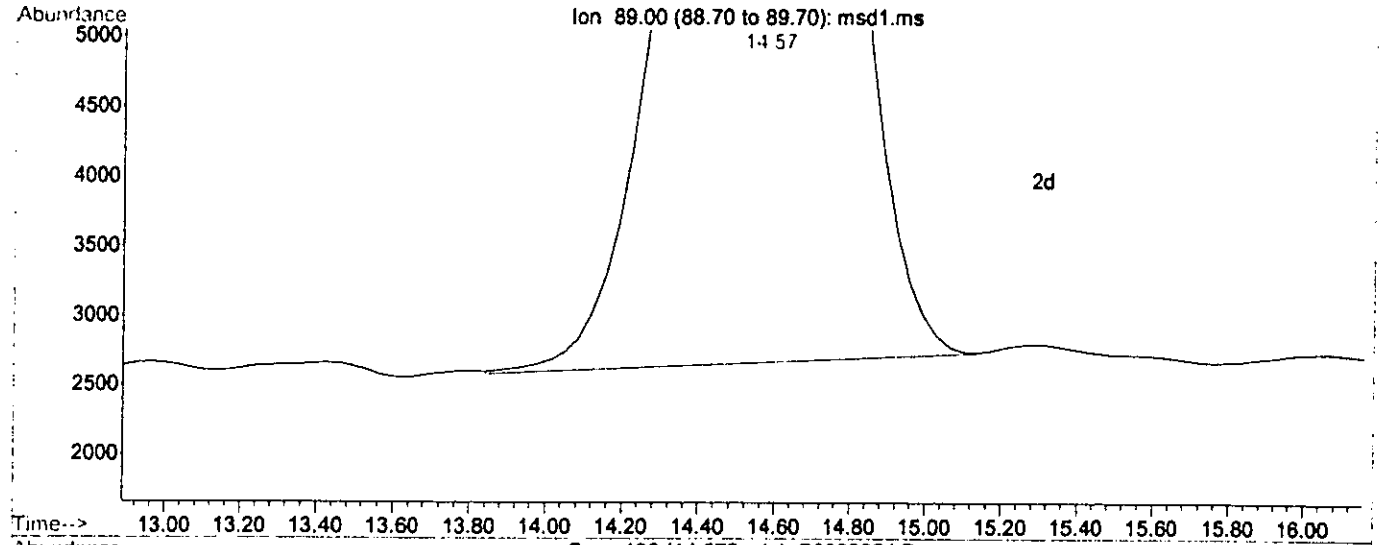
response 281638

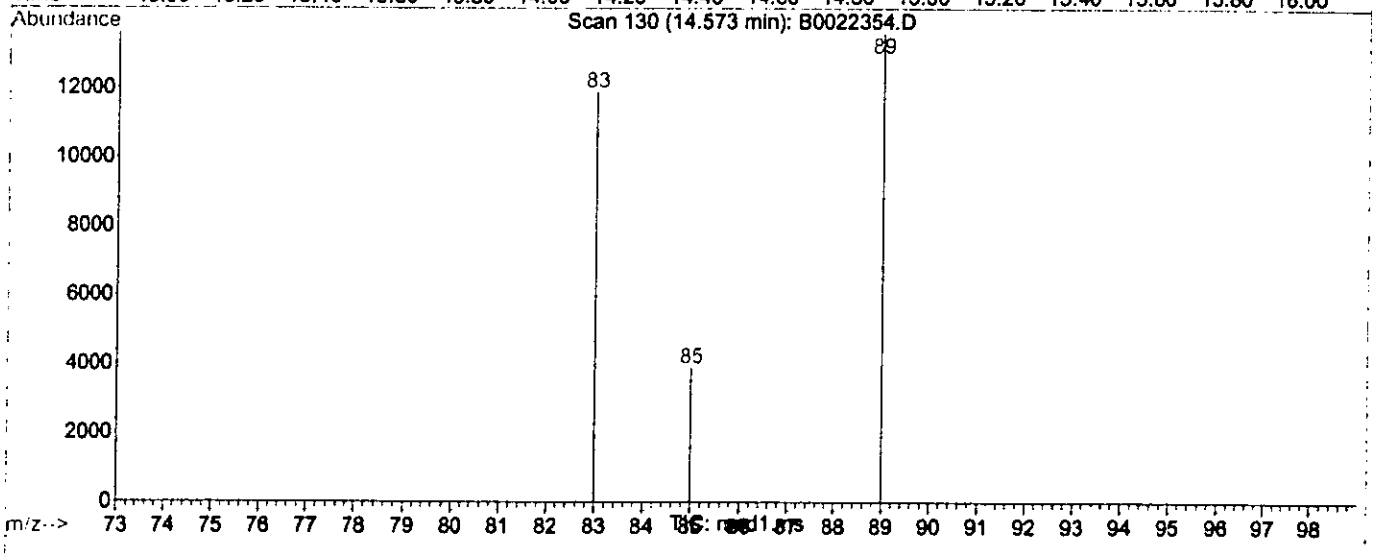
Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:00 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration





(1) O18LP

14.57min 1.00ug/L m

response 273652

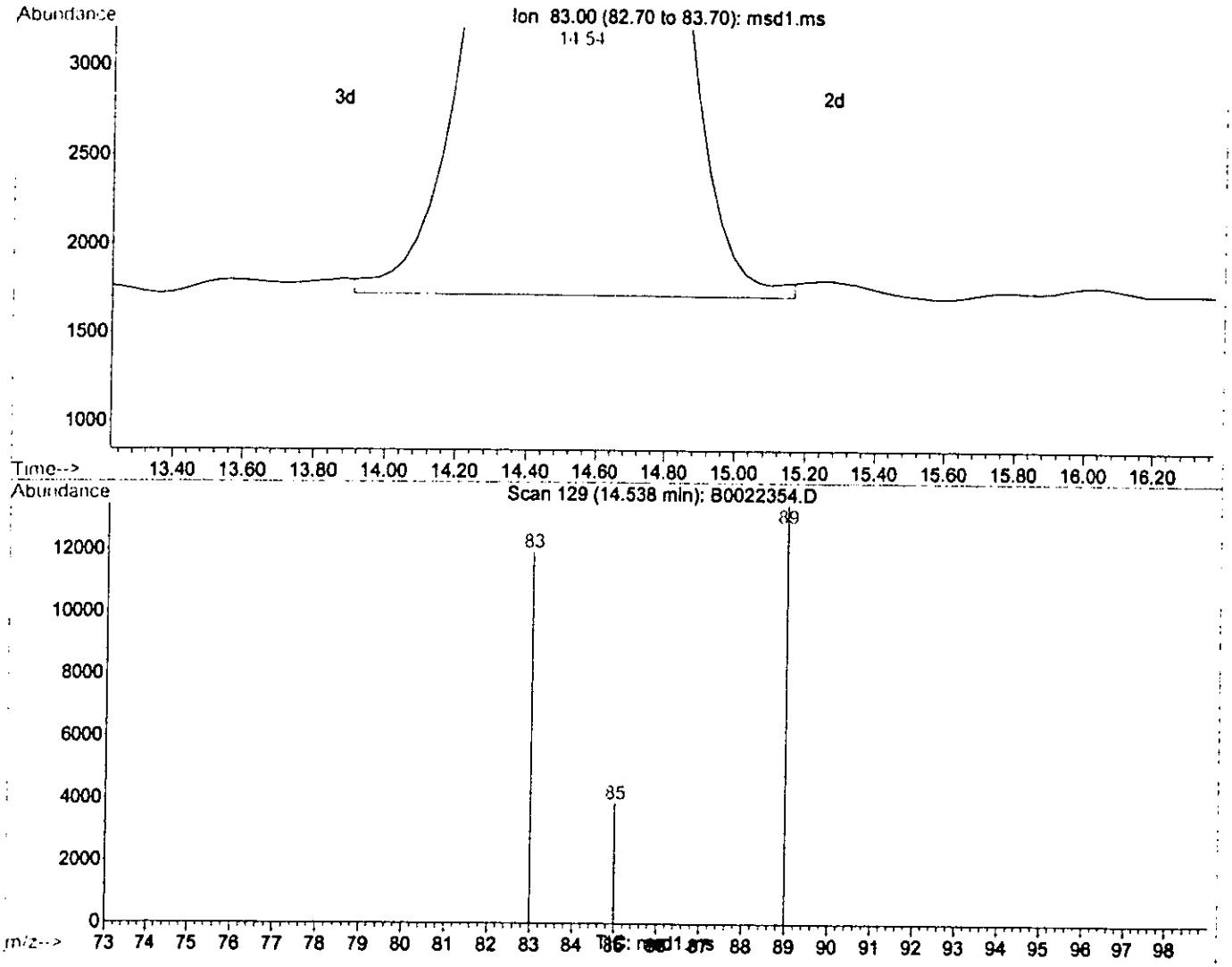
Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD INT.)

B0022354.D PERC0829.M Mon Aug 29 15:00:18 2011 00048

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:00 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(2) Perchlorate

14.54min 0.75ug/L

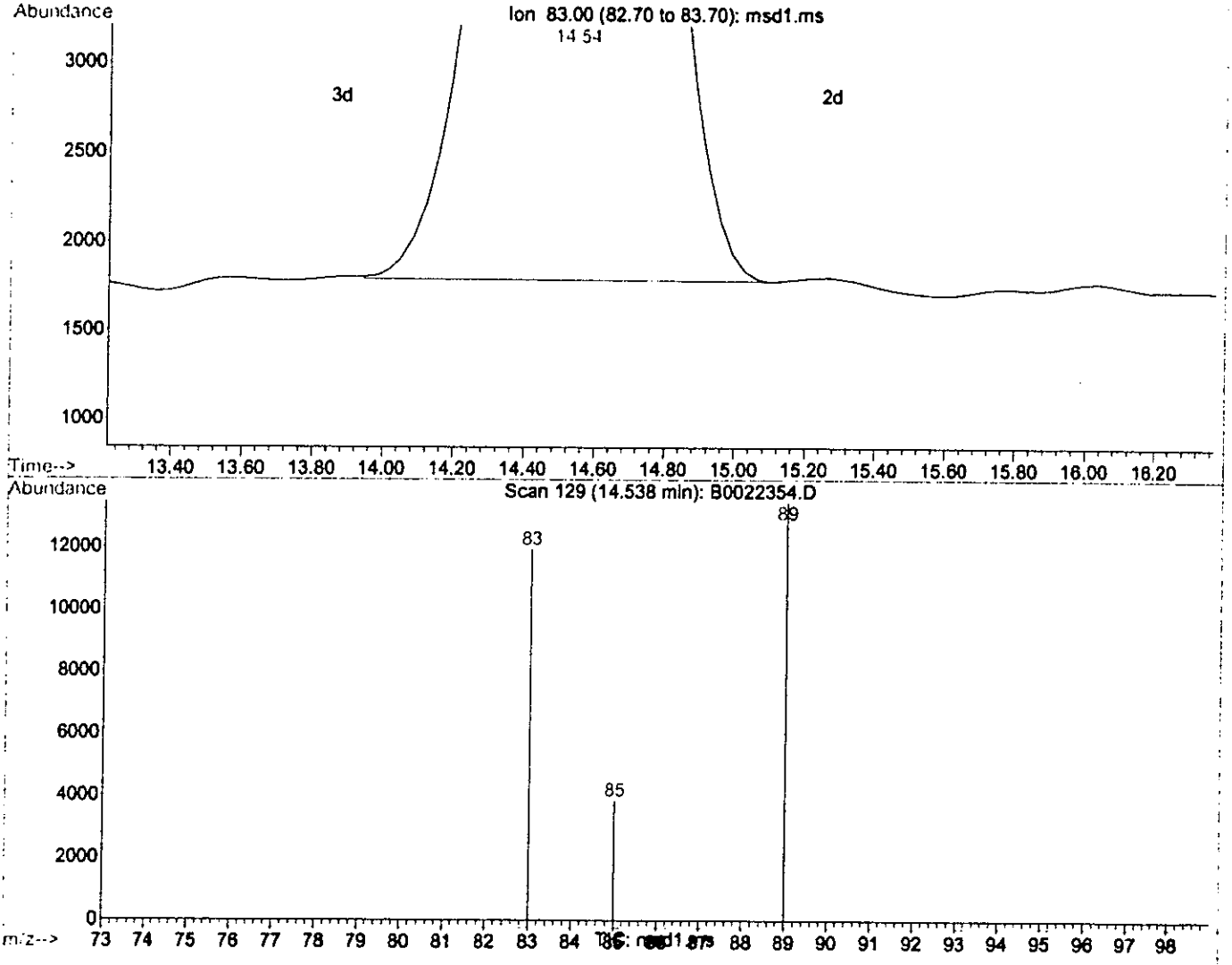
response 257657

Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:00 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(2) Perchlorate

14.54min 0.73ug/L m

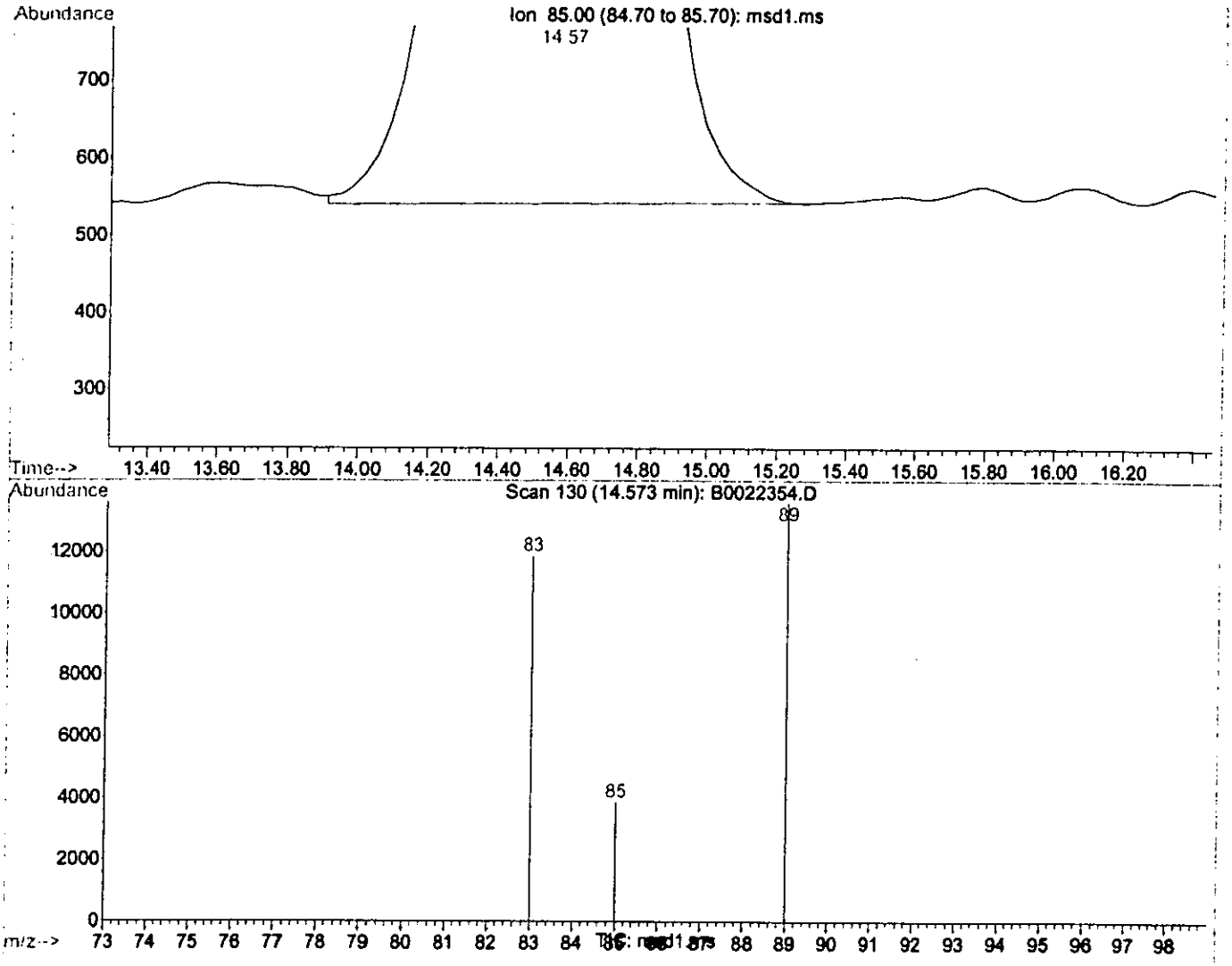
response 252139

Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD DT.)

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:00 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(3) #2 perc ion

14.57min 0.67ug/L

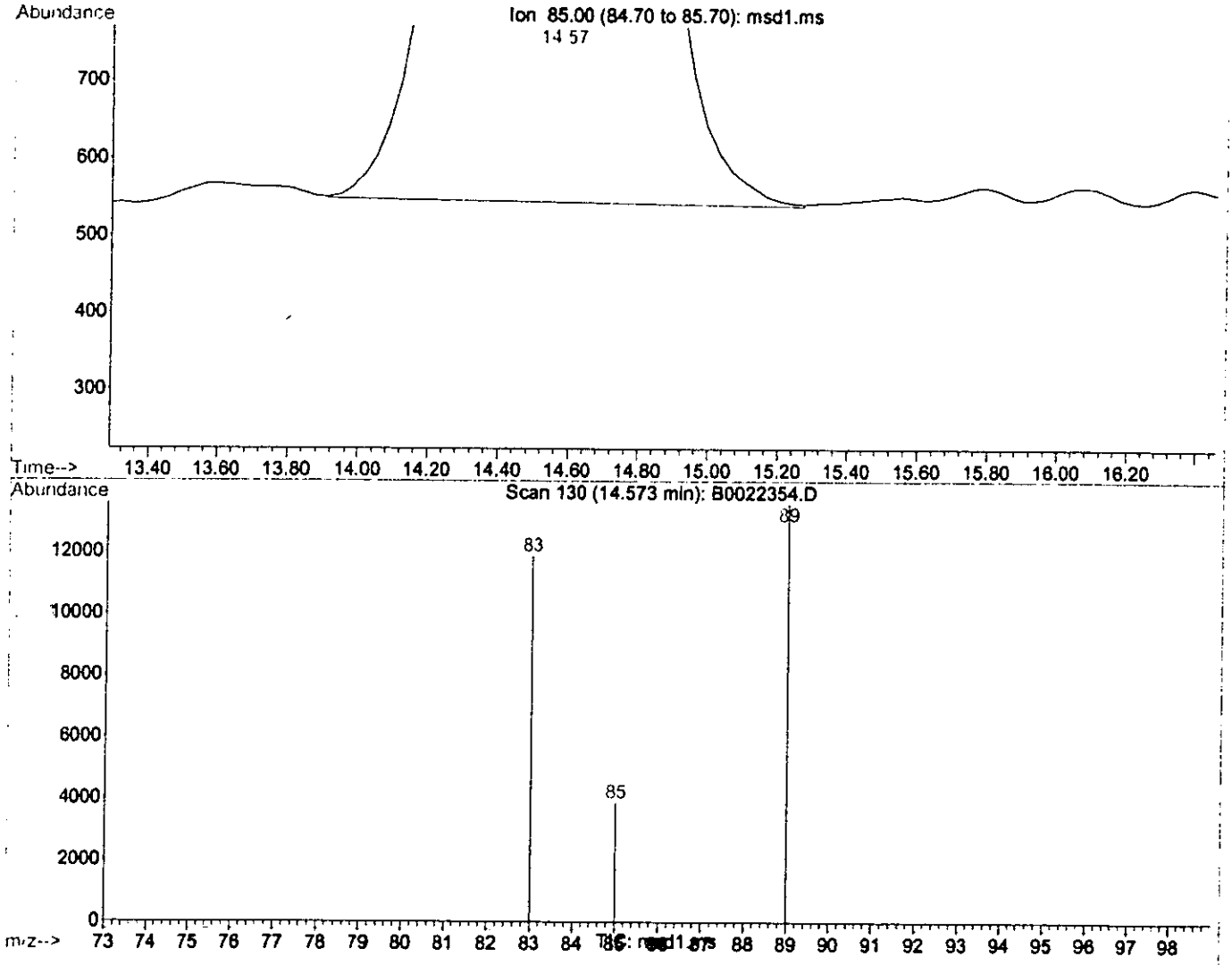
response 84164

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:00 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(3) #2 perc ion

14.57min 0.67ug/L m

response 84038

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

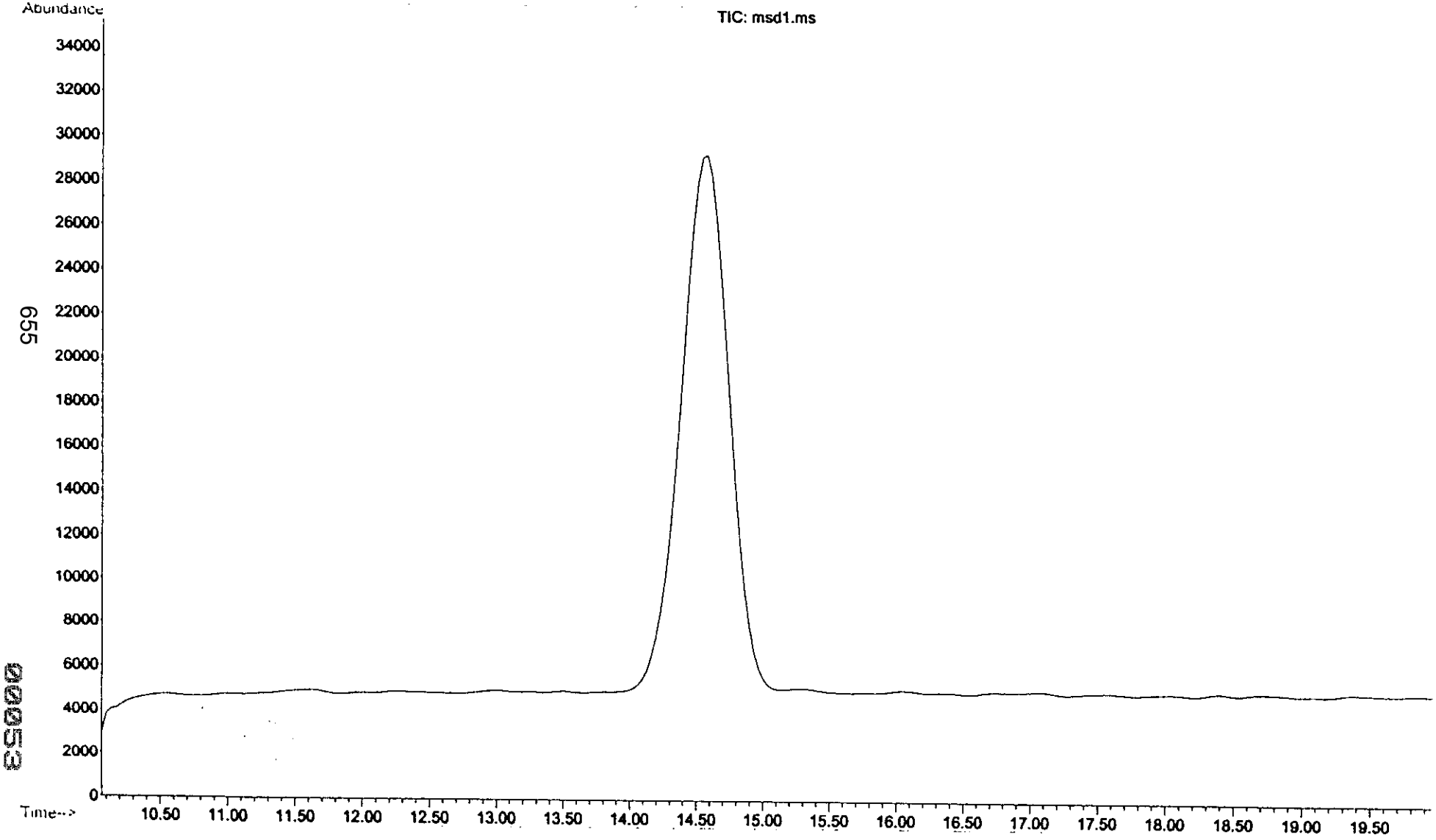
A
BA 8/29
(BAD DT)

8/29/11

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:00 2011 Quant Results File: PERC0829.RES

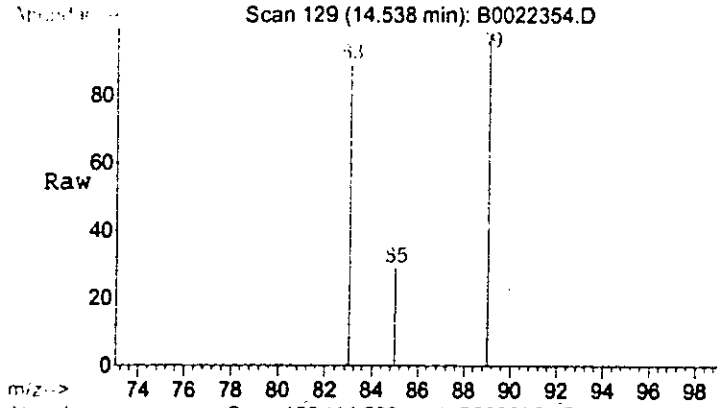
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration



655

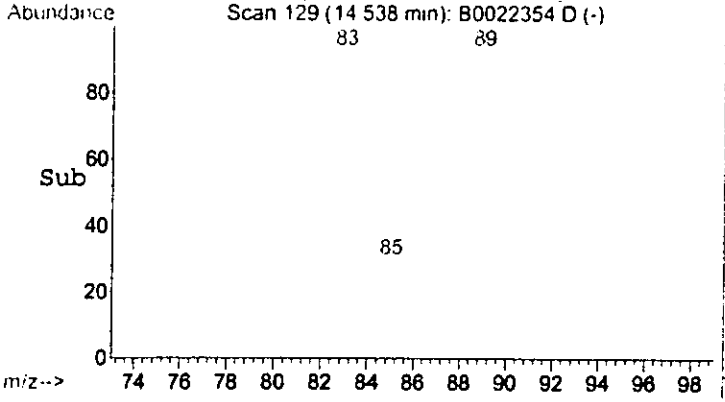
25000

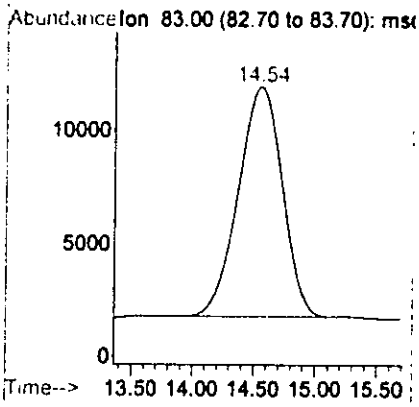
B0022354.D PERC0829.M Mon Aug 29 15:00:52 2011

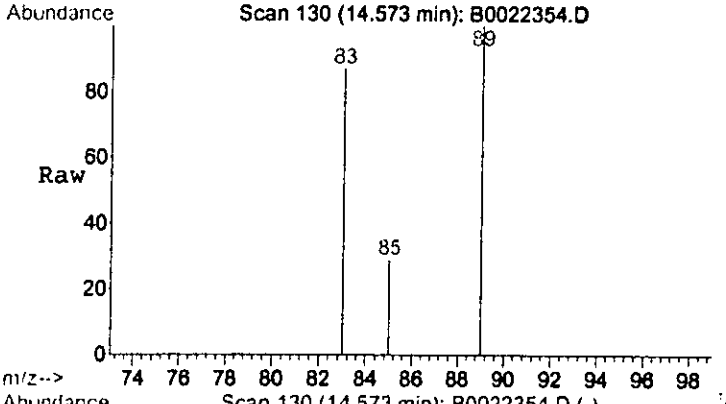


#2
Perchlorate
Concen: 0.73 ug/L m
RT: 14.54 min Scan# 129
Delta R.T. -0.03 min
Lab File: B0022354.D
Acq: 29 Aug 2011 1:41 pm

Tgt Ion: 83 Resp: 252139

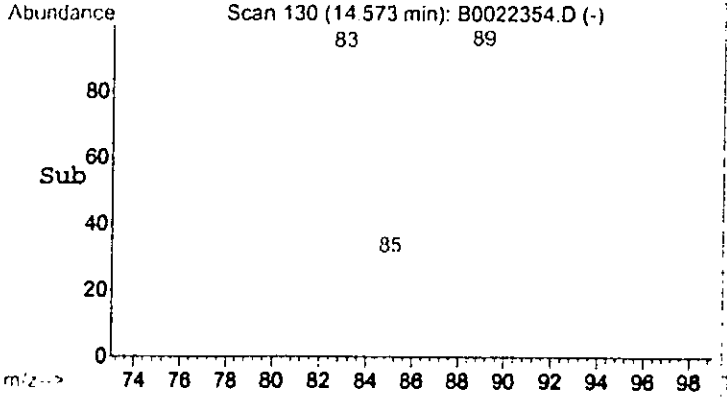


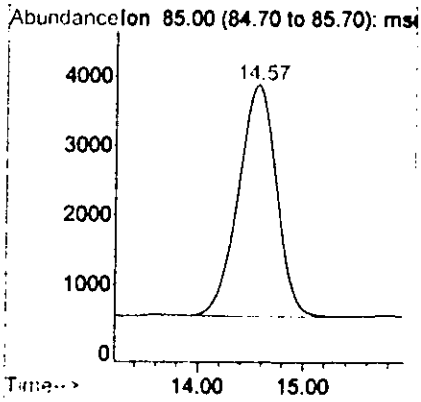




#3
#2 perc ion
Concen: 0.67 ug/L m
RT: 14.57 min Scan# 130
Delta R.T. -0.00 min
Lab File: B0022354.D
Acq: 29 Aug 2011 1:41 pm

Tgt Ion: 85 Resp: 84038





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.57	89	281638	1.00	ug/L	0.02
Target Compounds						Qvalue
2) Perchlorate	14.54	83	257657	0.73	ug/L	100
3) #2 perc ion	14.57	85	84164	0.65	ug/L	100

Ratio
3.06

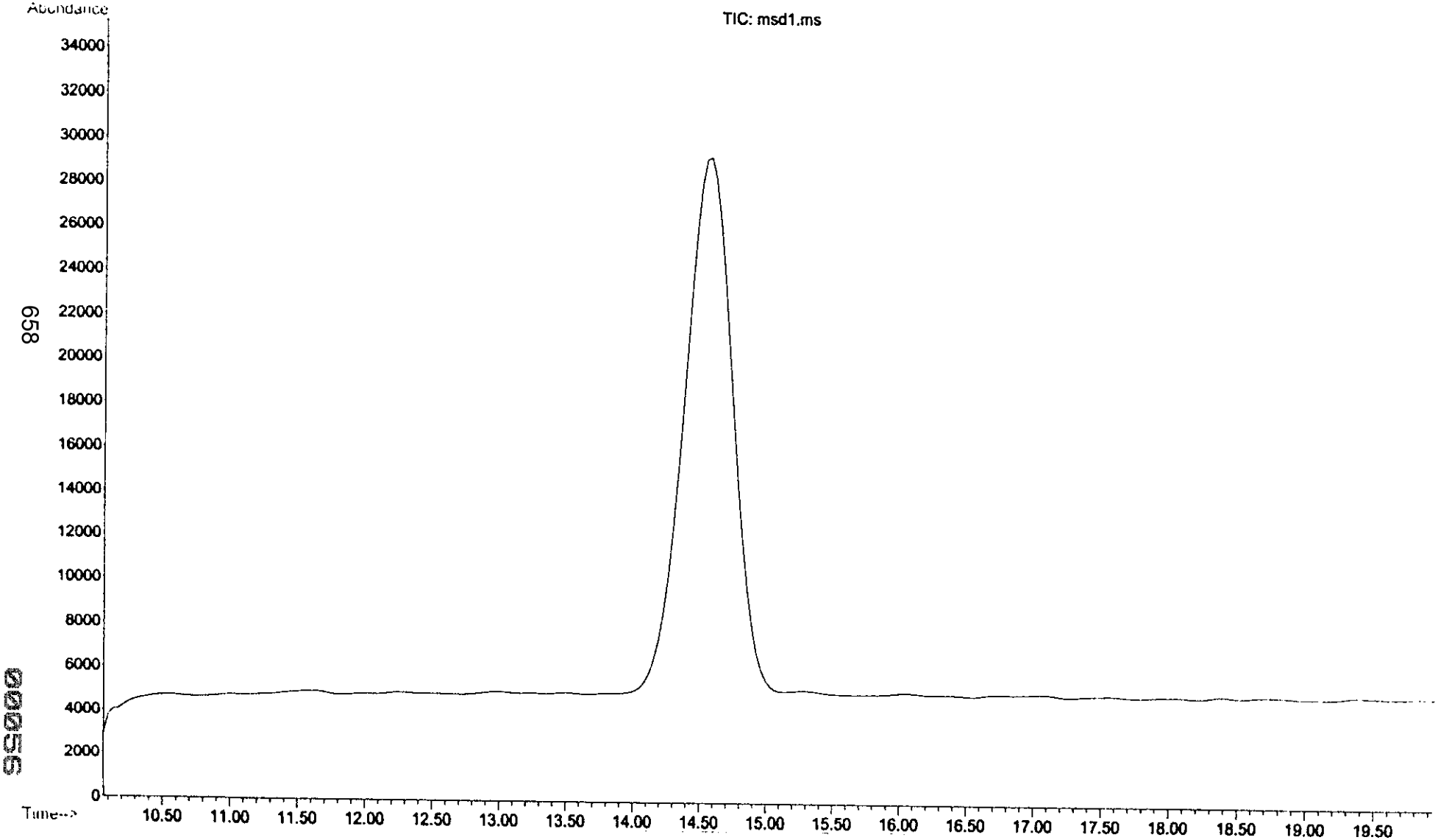
ORIGINAL

(#) = qualifier out of range (m) = manual integration
B0022354.D PERC0829.M Mon Aug 29 14:57:44 2011 Page 1

Quantitation Report

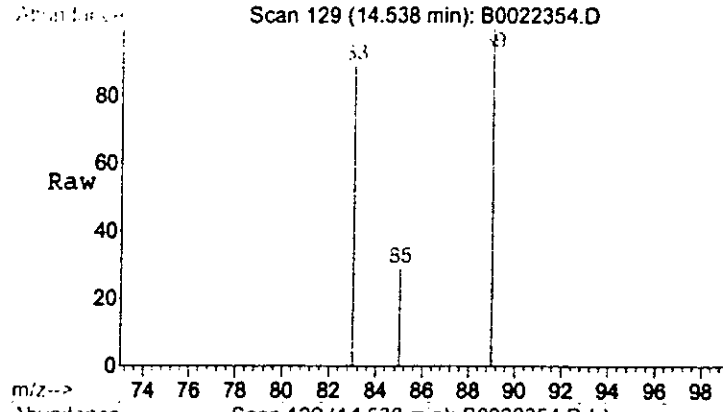
Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D Vial: 5
Acq On : 29 Aug 2011 1:41 pm Operator: B.ALLGEIER
Sample : std4 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration



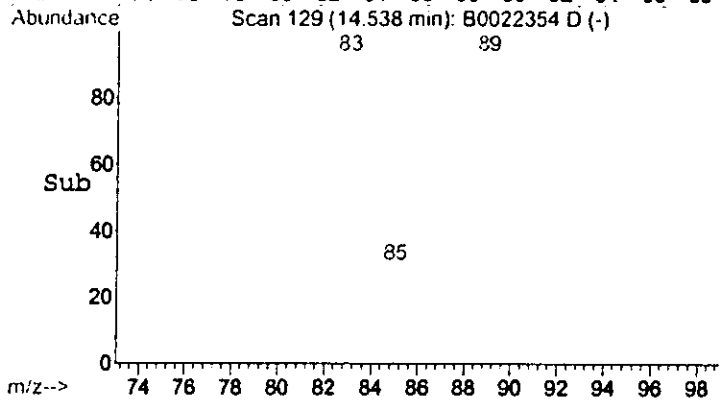
658

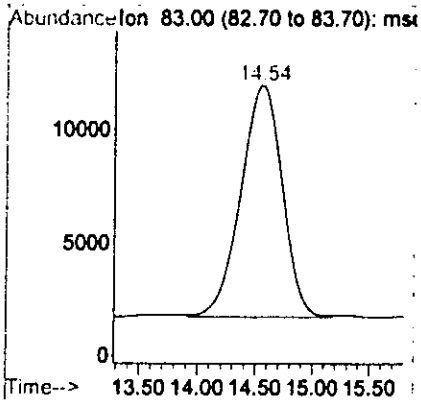
B0022354.D PERC0829.M Mon Aug 29 14:57:45 2011

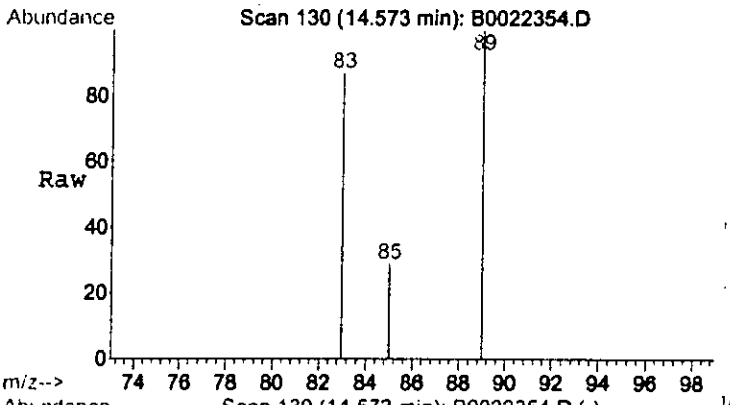


#2
Perchlorate
Concen: 0.73 ug/L
RT: 14.54 min Scan# 129
Delta R.T. -0.03 min
Lab File: B0022354.D
Acq: 29 Aug 2011 1:41 pm

Tgt Ion: 83 Resp: 257657

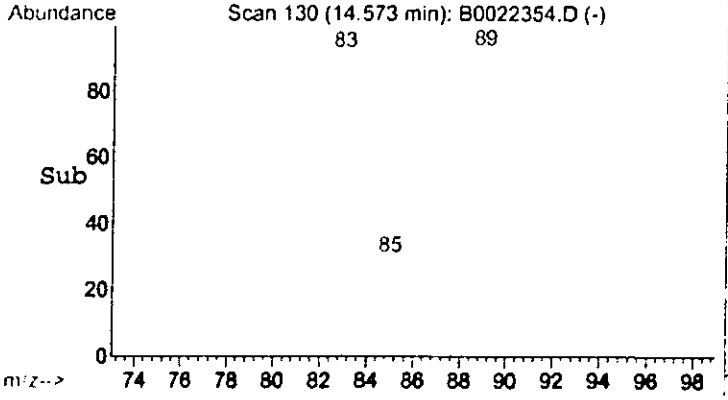


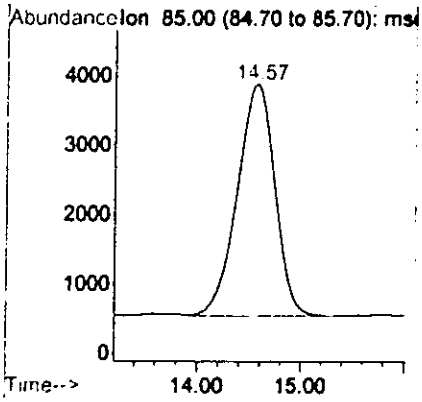




#3
#2 perc ion
Concen: 0.65 ug/L
RT: 14.57 min Scan# 130
Delta R.T. -0.00 min
Lab File: B0022354.D
Acq: 29 Aug 2011 1:41 pm

Tgt Ion: 85 Resp: 84164





Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:01 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.61	89	274382m	1.00	ug/L	0.05
Target Compounds						Qvalue
2) Perchlorate	14.57	83	348185	1.01	ug/L	100
3) #2 perc ion	14.57	85	108342m	0.86	ug/L	

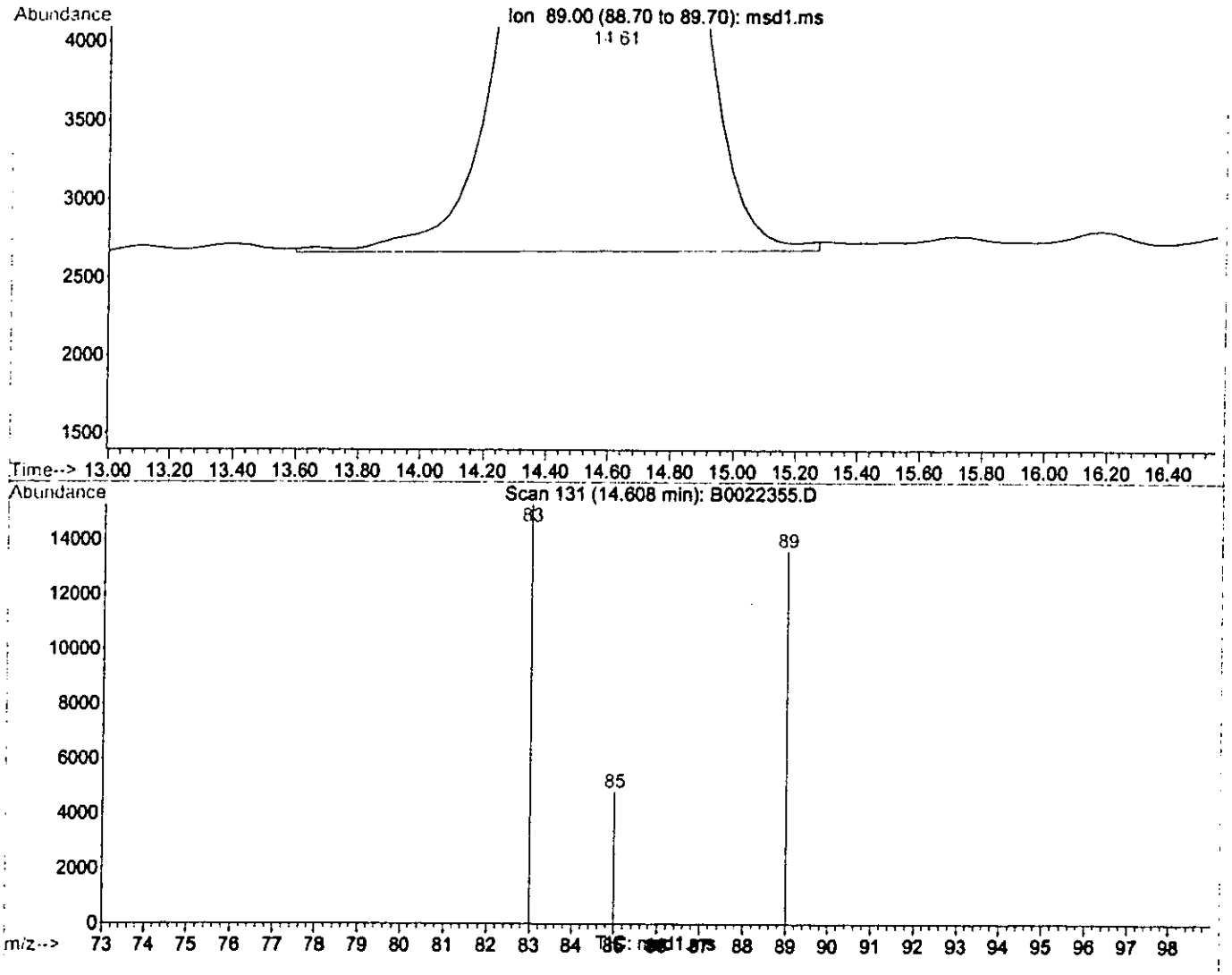
Ratio
3.21

BA
8/29

(#) = qualifier out of range (m) = manual integration
B0022355.D PERC0829.M Mon Aug 29 15:01:42 2011 00058 Page 1

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(1) O18LP

14.61min 1.00ug/L

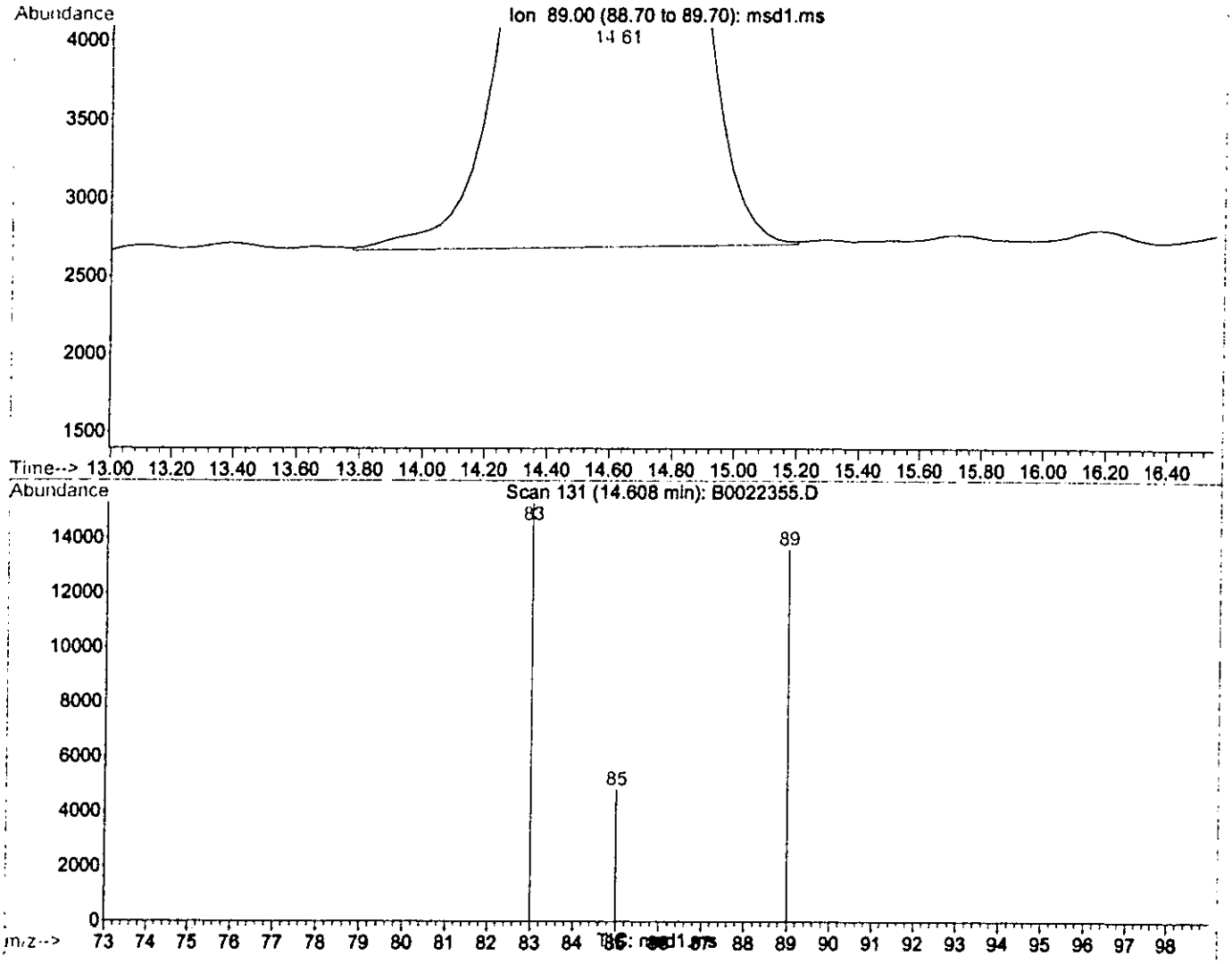
response 276463

Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:01 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(1) O18LP

14.61min 1.00ug/L m

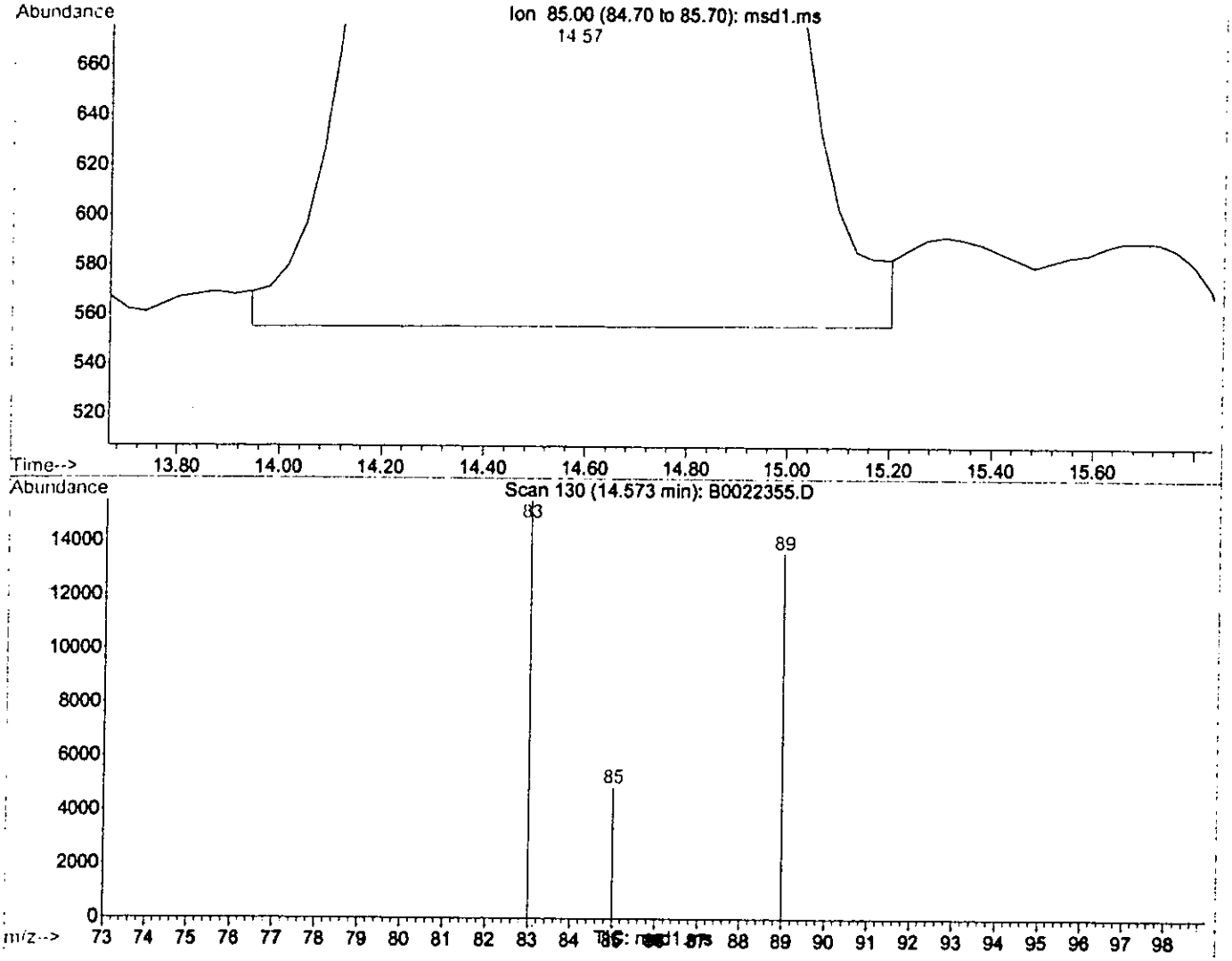
response 274382

Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA8/29
(BAD DVT)

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:01 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(3) #2 perc ion

14.57min 0.87ug/L

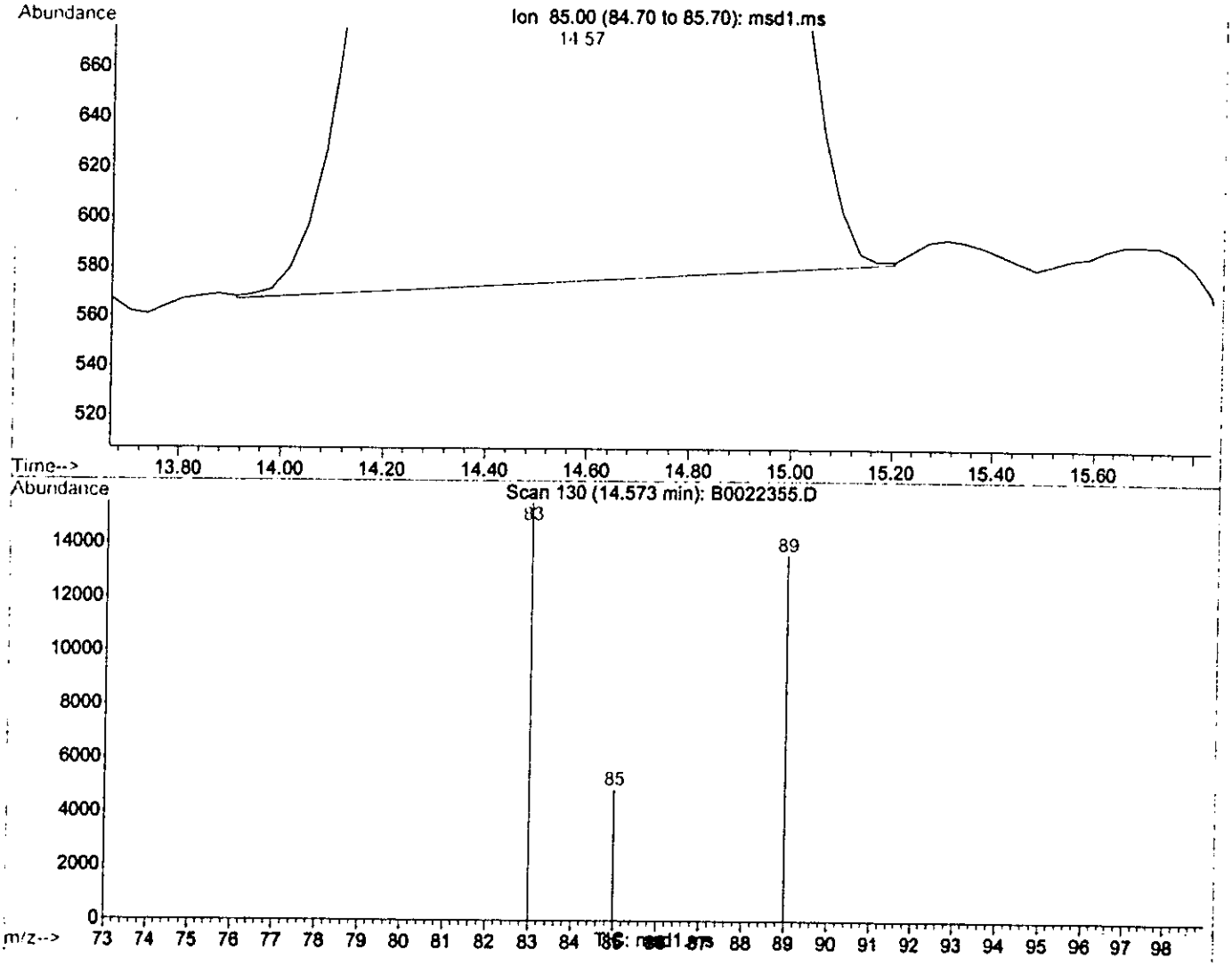
response 109749

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:01 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(3) #2 perc ion

14.57min 0.86ug/L m

response 108342

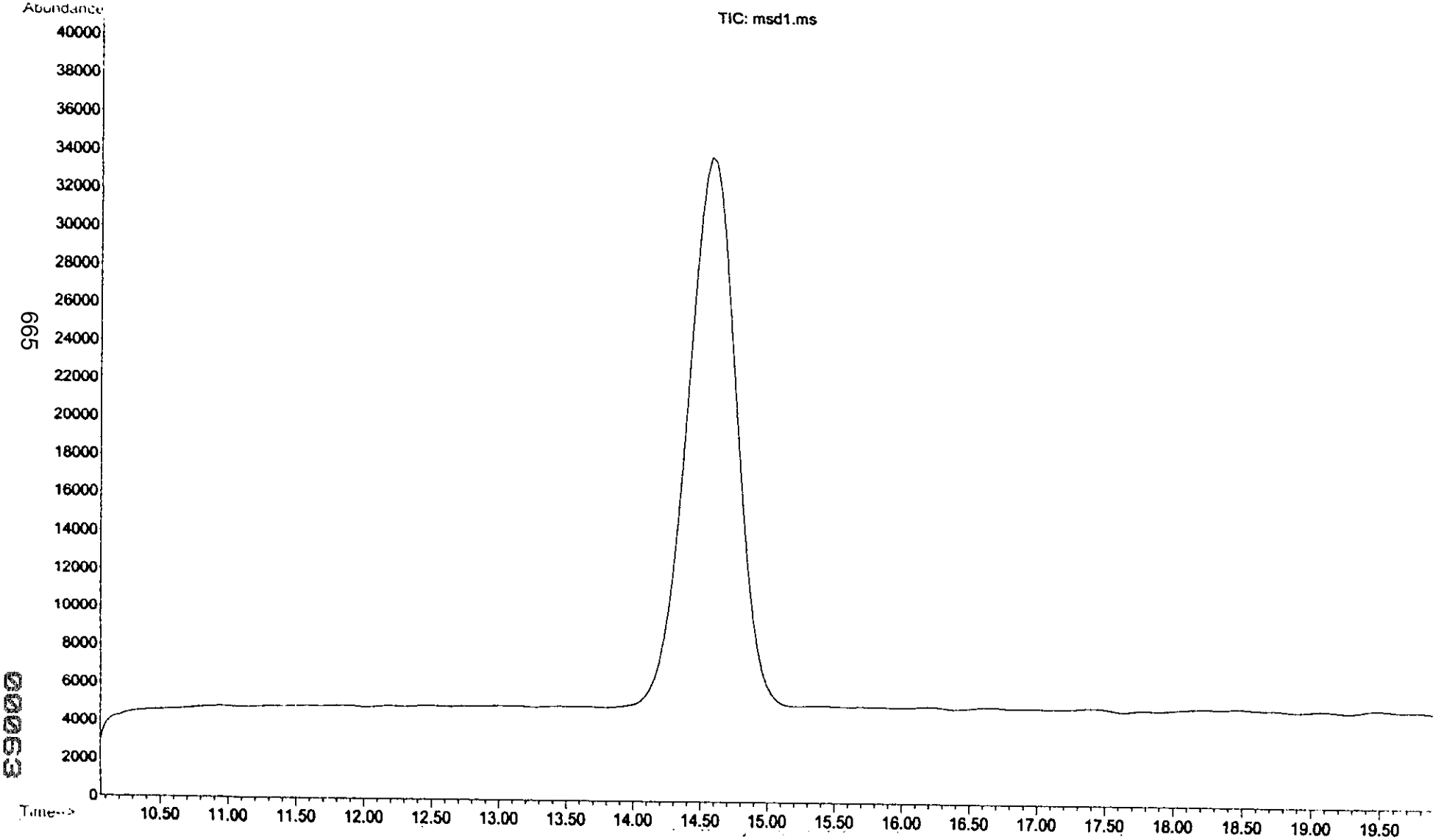
Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD DW?)

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:01 2011 Quant Results File: PERC0829.RES

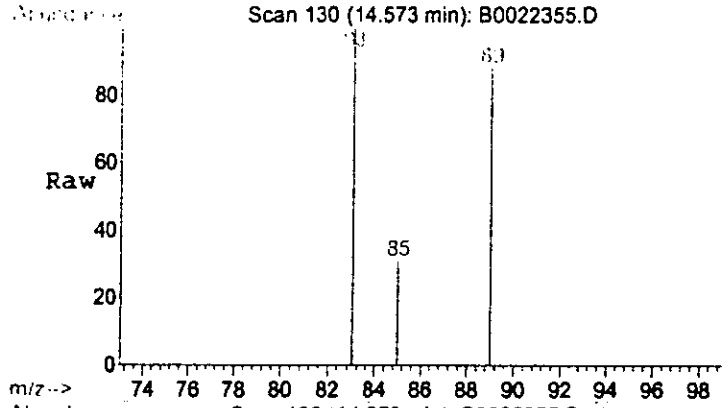
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration



665

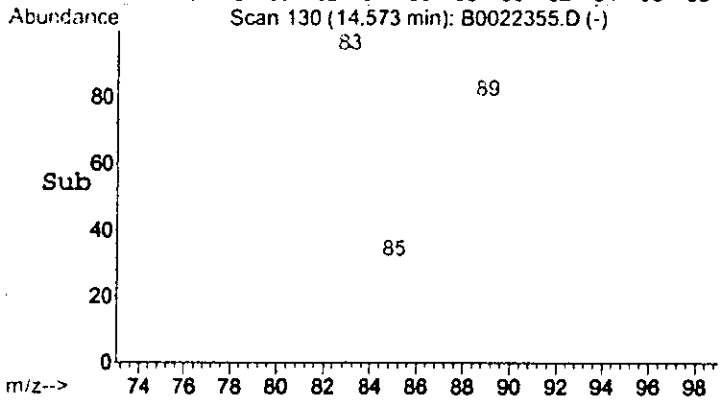
99993

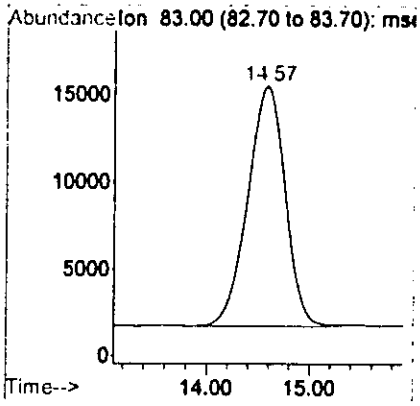
B0022355.D PERC0829.M Mon Aug 29 15:01:43 2011

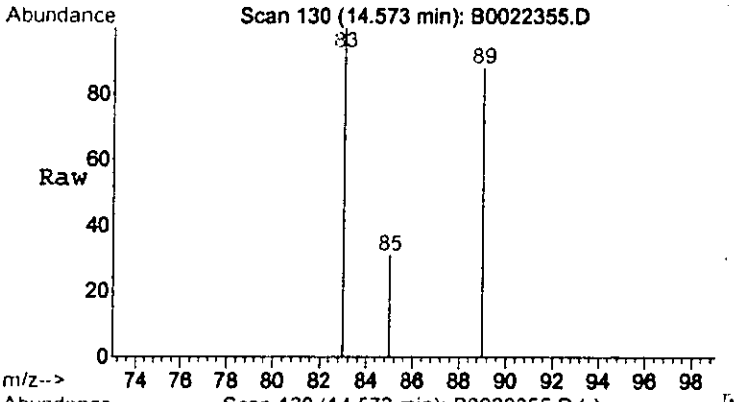


#2
Perchlorate
Concen: 1.01 ug/L
RT: 14.57 min Scan# 130
Delta R.T. 0.00 min
Lab File: B0022355.D
Acq: 29 Aug 2011 2:03 pm

Tgt Ion: 83 Resp: 348185

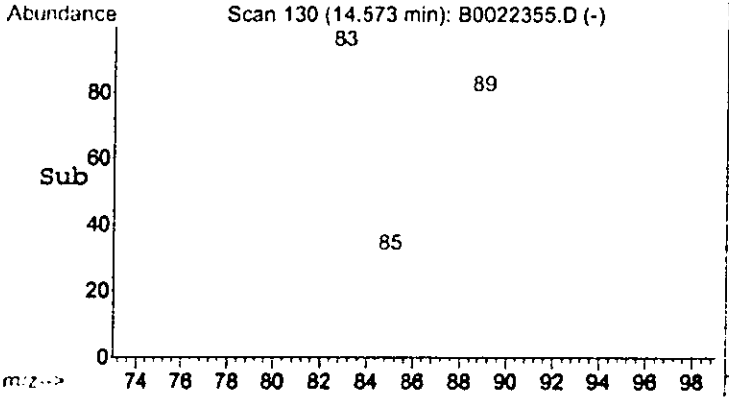


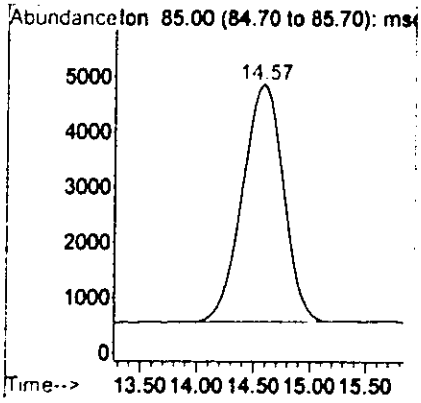




#3
#2 perc ion
Concen: 0.86 ug/L m
RT: 14.57 min Scan# 130
Delta R.T. -0.00 min
Lab File: B0022355.D
Acq: 29 Aug 2011 2:03 pm

Tgt Ion: 85 Resp: 108342





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.61	89	276463	1.00	ug/L	0.05
Target Compounds						Qvalue
2) Perchlorate	14.57	83	348185	1.00	ug/L	100
3) #2 perc ion	14.57	85	109749	0.87	ug/L	100

Ratio
3.17

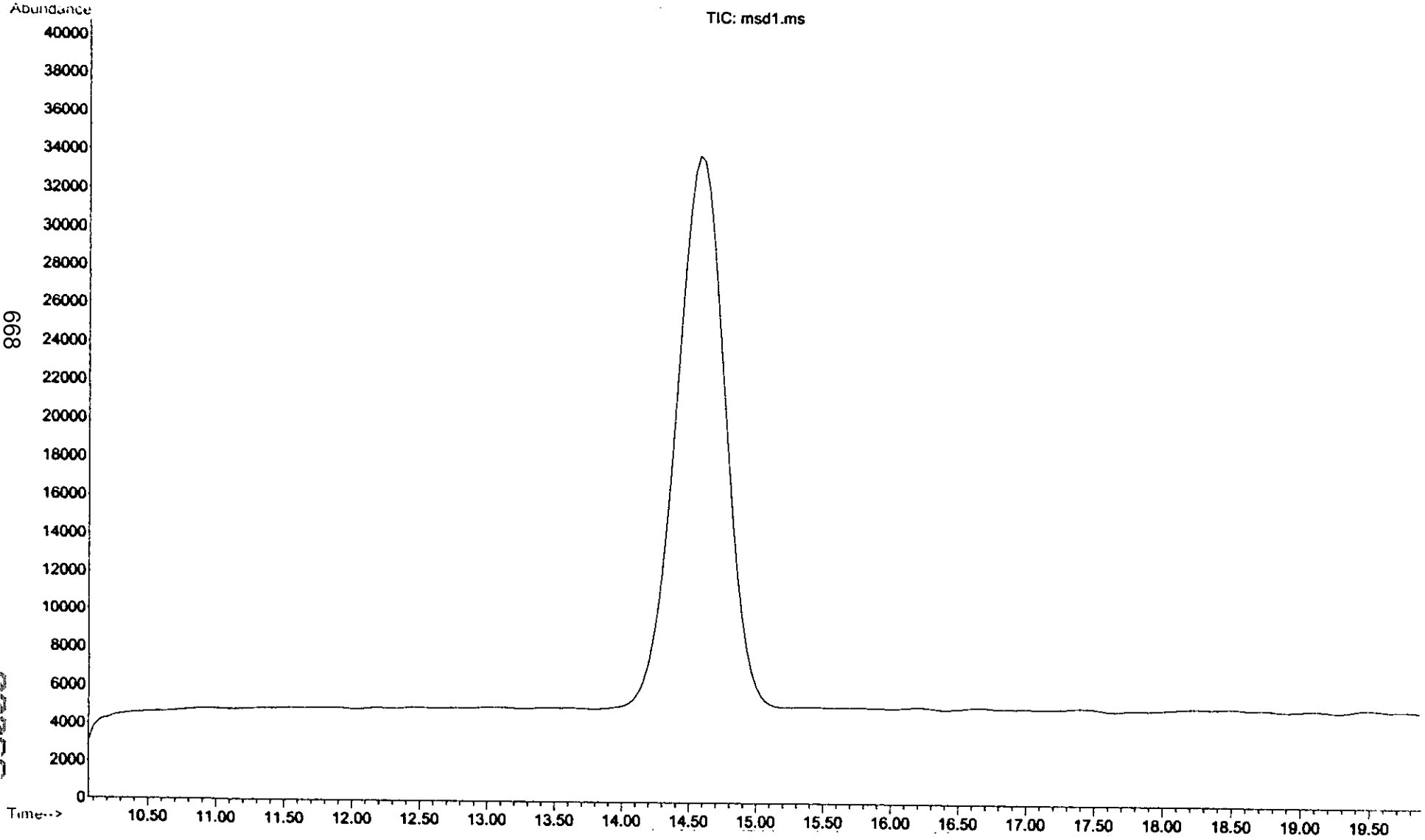
Original

(#) = qualifier out of range (m) = manual integration
B0022355.D PERC0829.M Mon Aug 29 14:57:48 2011

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D Vial: 6
Acq On : 29 Aug 2011 2:03 pm Operator: B.ALLGEIER
Sample : std5 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: PERC0829.RES

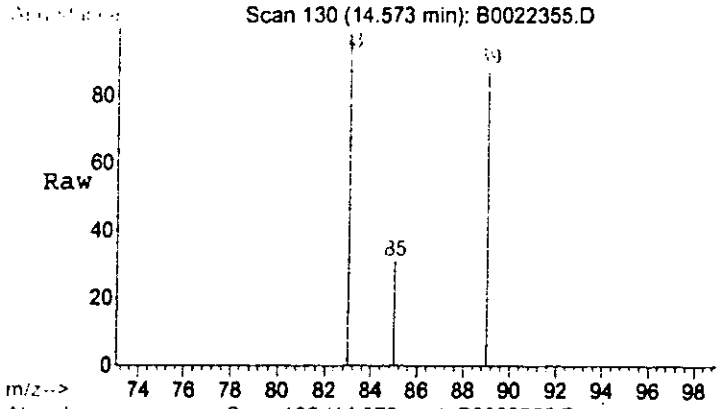
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration



668

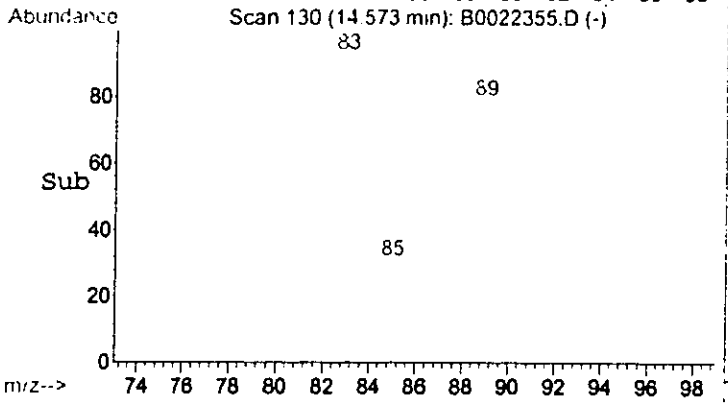
99999

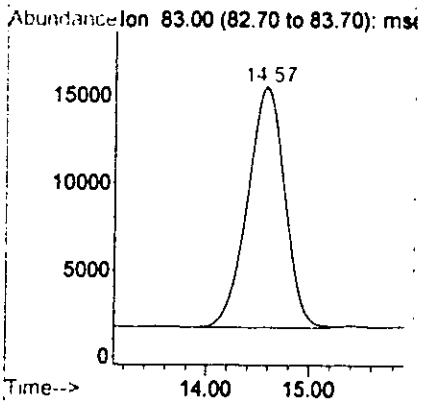
B0022355.D PERC0829.M Mon Aug 29 14:57:49 2011

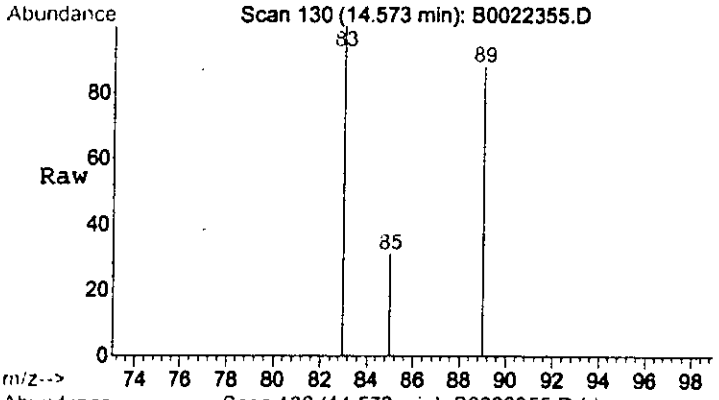


#2
Perchlorate
Concen: 1.00 ug/L
RT: 14.57 min Scan# 130
Delta R.T. 0.00 min
Lab File: B0022355.D
Acq: 29 Aug 2011 2:03 pm

Tgt Ion: 83 Resp: 348185

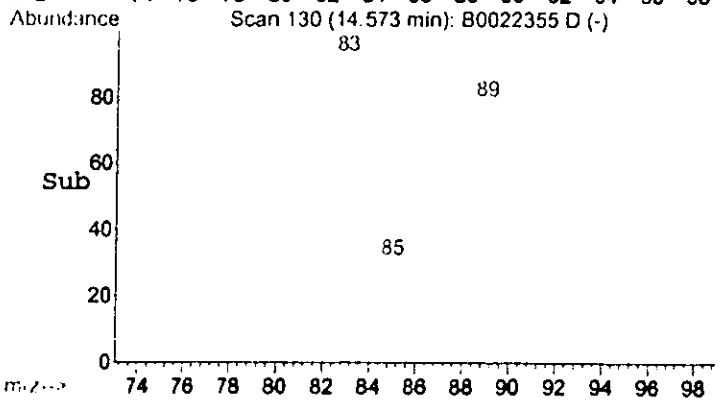


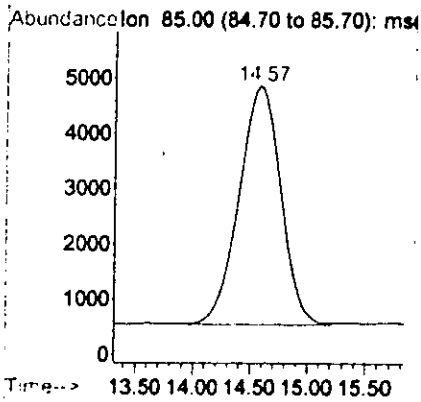




#3
#2 perc ion
Concen: 0.87 ug/L
RT: 14.57 min Scan# 130
Delta R.T. -0.00 min
Lab File: B0022355.D
Acq: 29 Aug 2011 2:03 pm

Tgt Ion: 85 Resp: 109749





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022356.D Vial: 7
Acq On : 29 Aug 2011 2:25 pm Operator: B.ALLGEIER
Sample : std6 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:02 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.57	89	276935m	1.00	ug/L	0.02
Target Compounds						Qvalue
2) Perchlorate	14.57	83	716831	2.06	ug/L	100
3) #2 perc ion	14.57	85	222380	1.75	ug/L	100

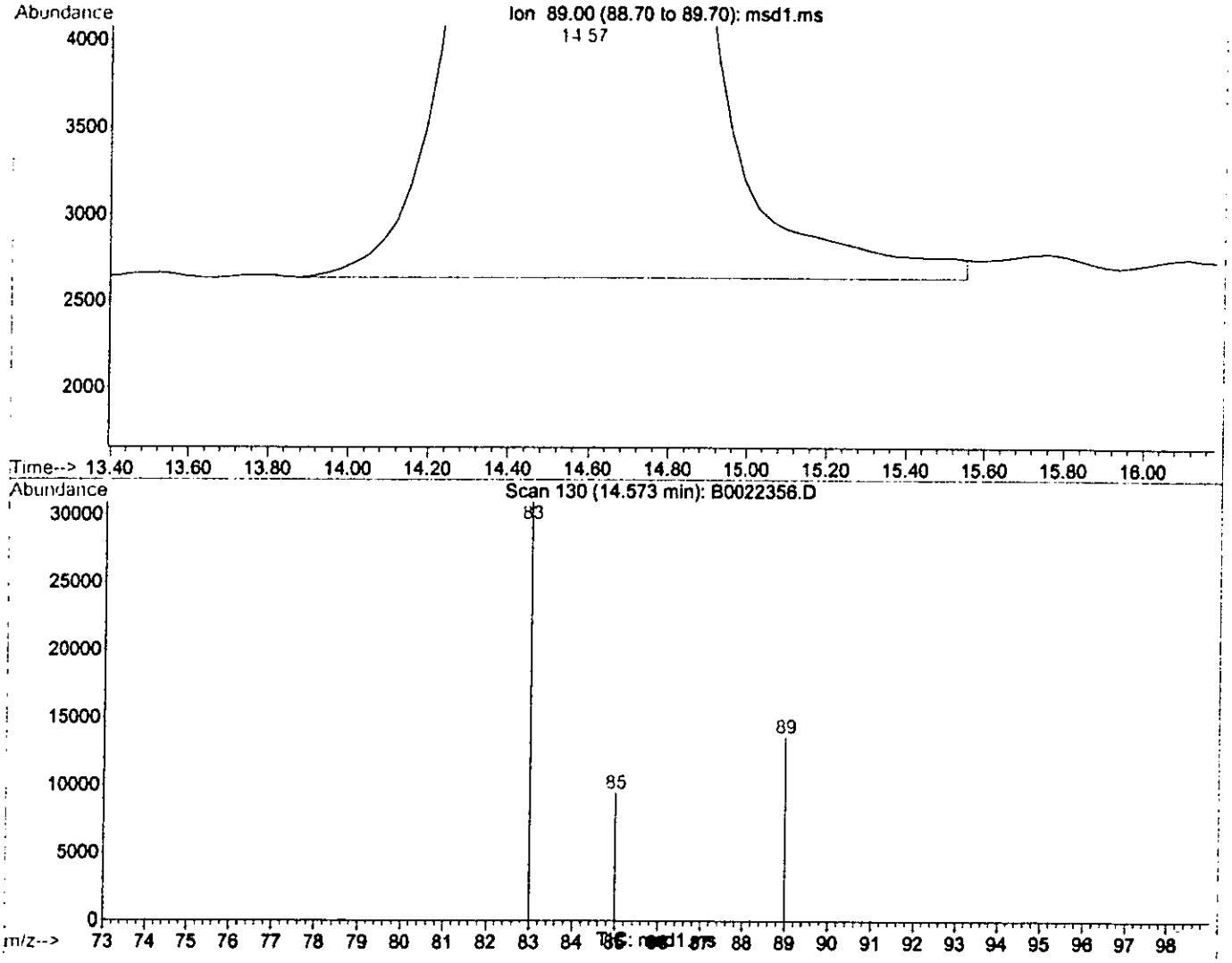
Ratio
3.22

BA
8/
29

(#) = qualifier out of range (m) = manual integration
B0022356.D PERC0829.M Mon Aug 29 15:02:24 2011 Page 1

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022356.D Vial: 7
Acq On : 29 Aug 2011 2:25 pm Operator: B.ALLGEIER
Sample : std6 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(1) O18LP

14.57min 1.00ug/L

response 282994

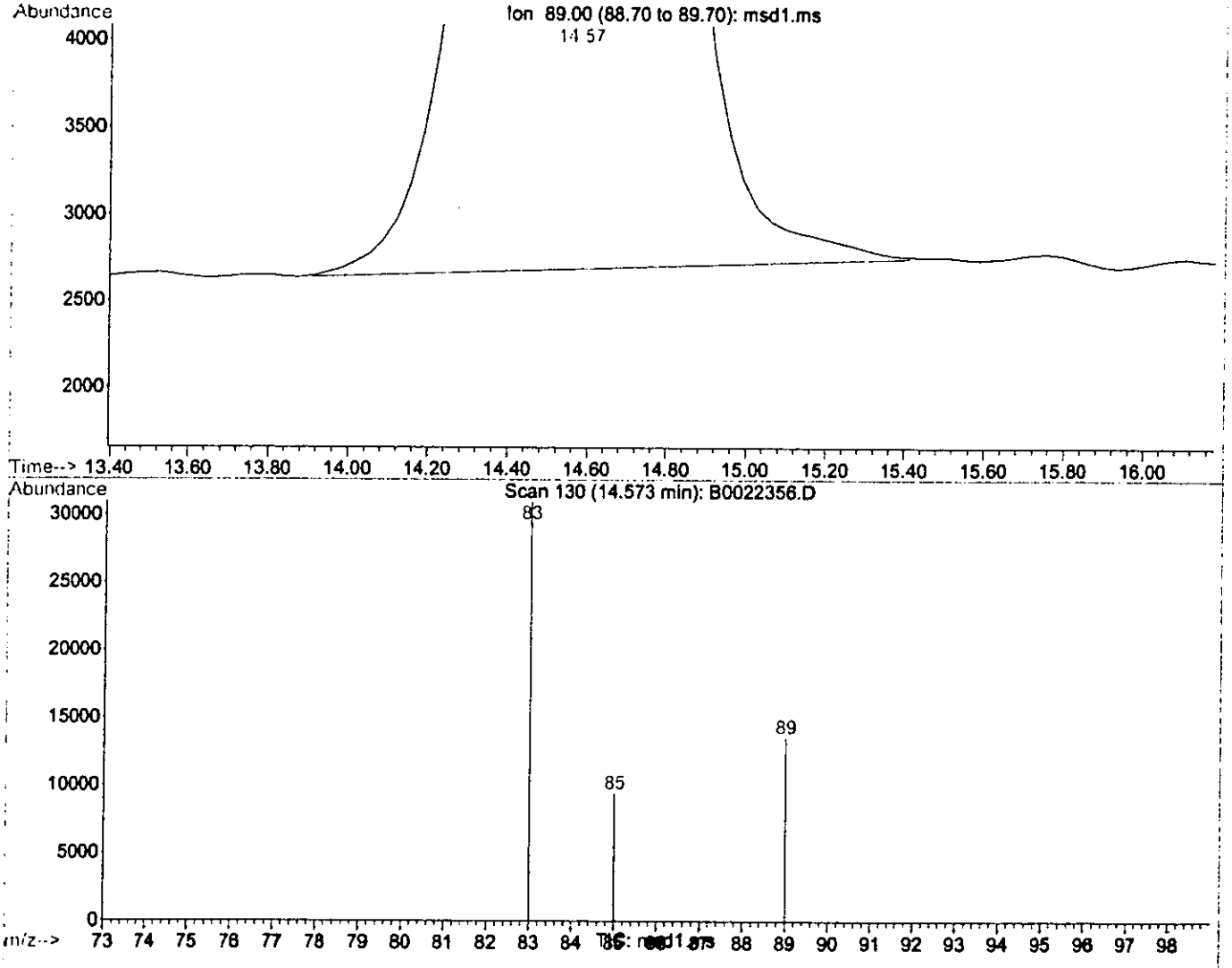
Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

B0022356.D PERC0829.M Mon Aug 29 15:02:02 2011 00069

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022356.D Vial: 7
Acq On : 29 Aug 2011 2:25 pm Operator: B.ALLGEIER
Sample : std6 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:02 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Multiple Level Calibration



(1) O18LP

14.57min 1.00ug/L m

response 276935

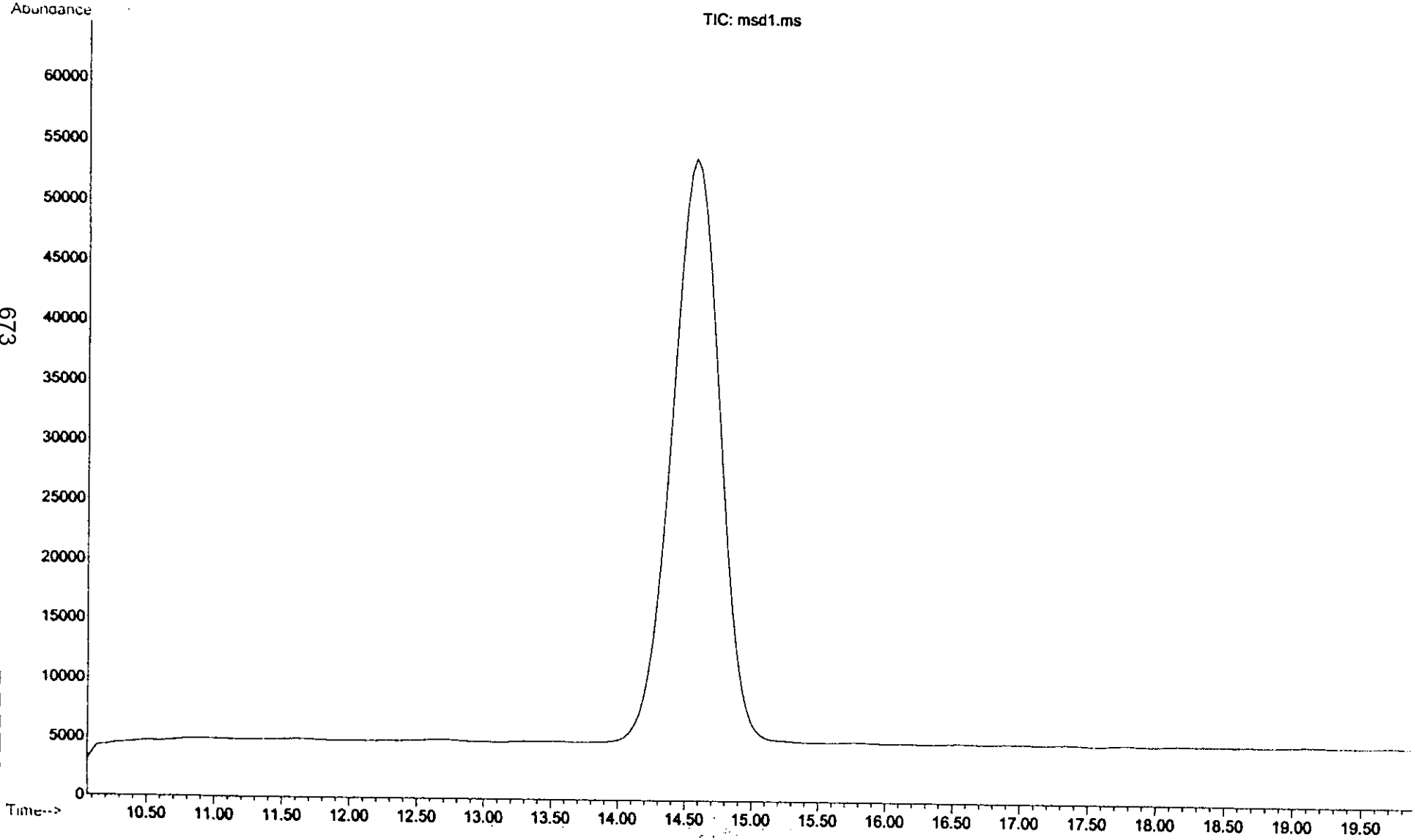
Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A
BA 8/29
(BAD DW.)

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022356.D Vial: 7
Acq On : 29 Aug 2011 2:25 pm Operator: B.ALLGEIER
Sample : std6 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:02 2011 Quant Results File: PERC0829.RES

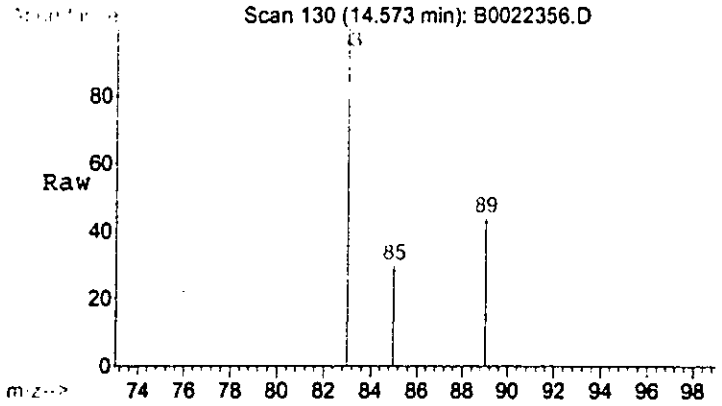
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration



673

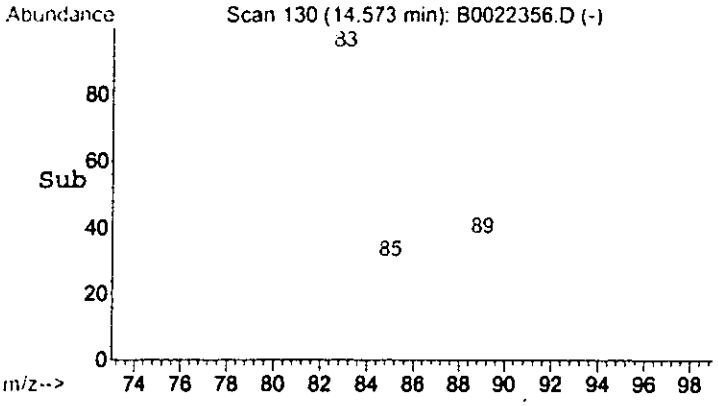
9007 74

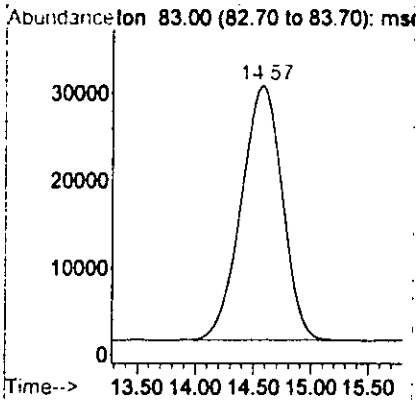
B0022356.D PERC0829.M Mon Aug 29 15:02:25 2011

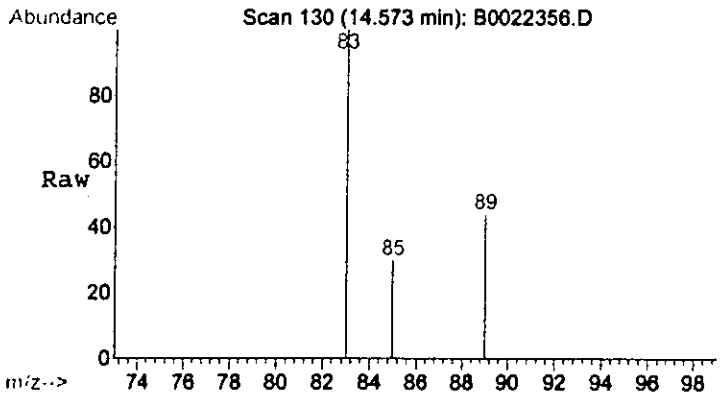


#2
Perchlorate
Concen: 2.06 ug/L
RT: 14.57 min Scan# 130
Delta R.T. 0.00 min
Lab File: B0022356.D
Acq: 29 Aug 2011 2:25 pm

Tgt Ion: 83 Resp: 716831

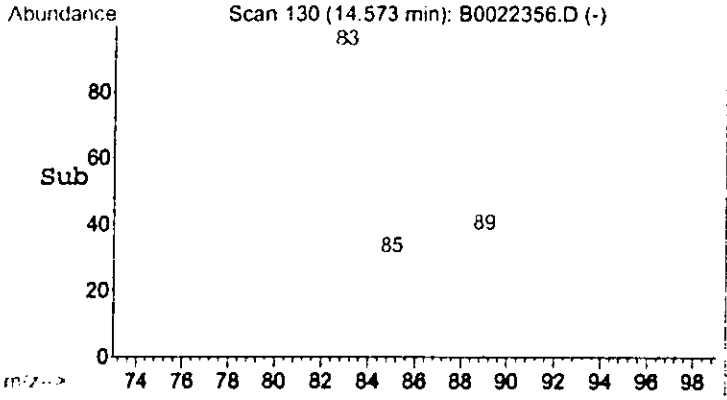


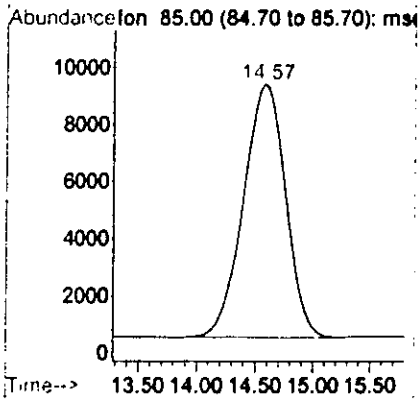




#3
#2 perc ion
Concen: 1.75 ug/L
RT: 14.57 min Scan# 130
Delta R.T. -0.00 min
Lab File: B0022356.D
Acq: 29 Aug 2011 2:25 pm

Tgt Ion: 85 Resp: 222380





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022356.D Vial: 7
Acq On : 29 Aug 2011 2:25 pm Operator: B.ALLGEIER
Sample : std6 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.57	89	282994	1.00	ug/L	0.02
Target Compounds						Qvalue
2) Perchlorate	14.57	83	716831	2.01	ug/L	100
3) #2 perc ion	14.57	85	222380	1.72	ug/L	100

Ratio
3.22

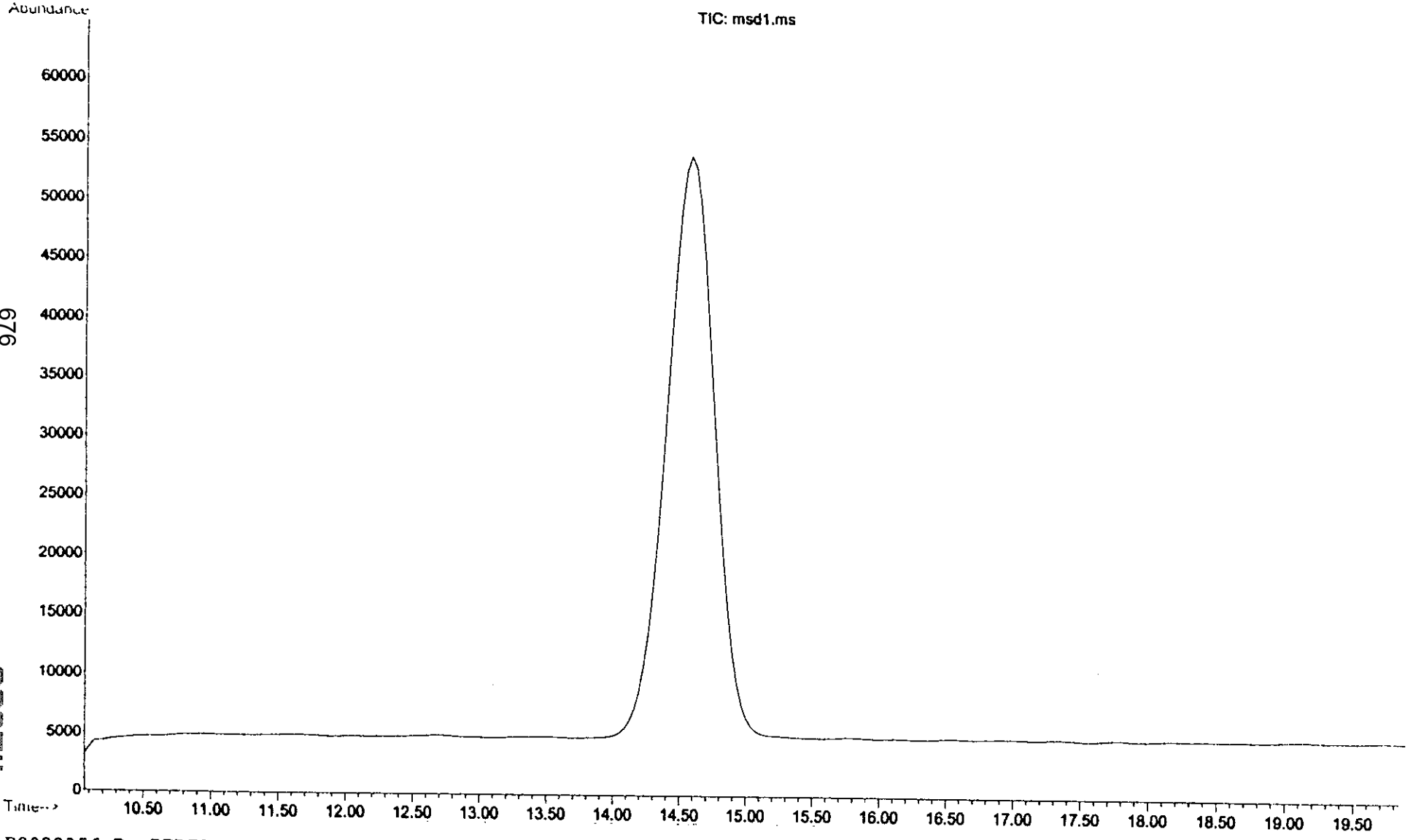
Orig: WAC

(#) = qualifier out of range (m) = manual integration

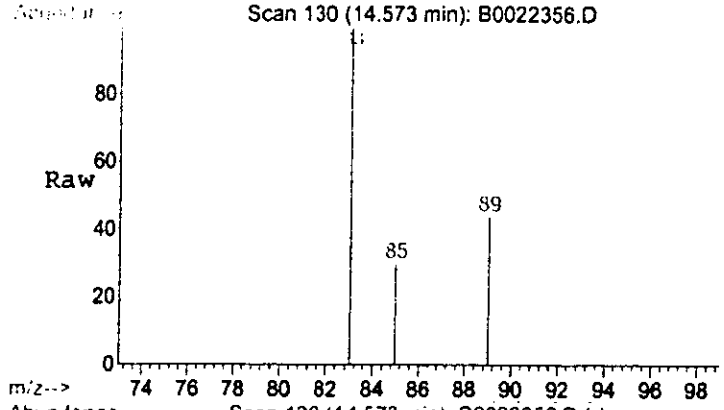
Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022356.D Vial: 7
Acq On : 29 Aug 2011 2:25 pm Operator: B.ALLGEIER
Sample : std6 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:57 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 14:05:39 2011
Response via : Initial Calibration

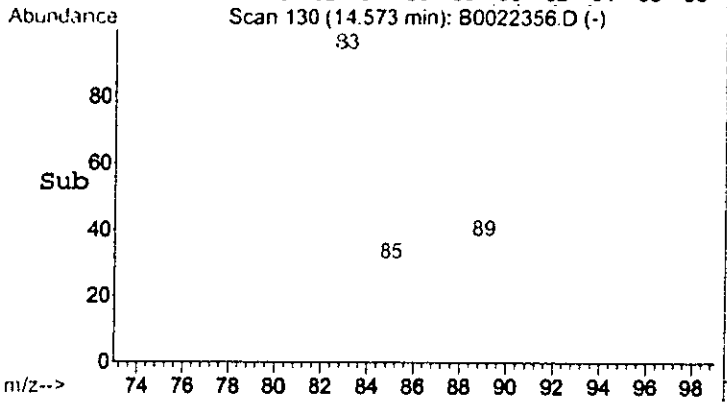


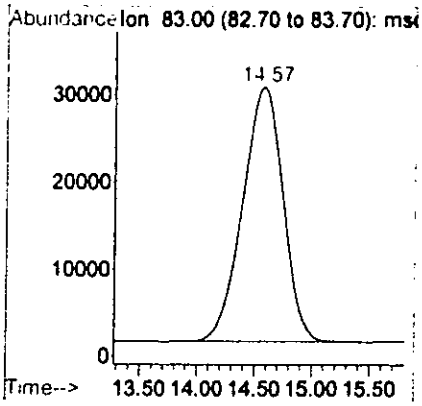
B0022356.D PERC0829.M Mon Aug 29 14:57:54 2011

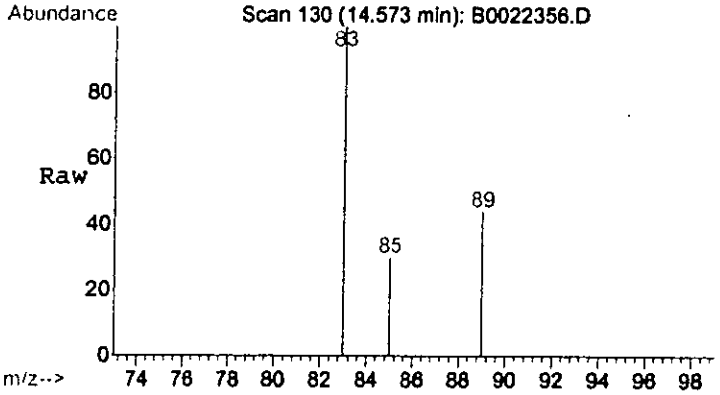


#2
Perchlorate
Concen: 2.01 ug/L
RT: 14.57 min Scan# 130
Delta R.T. 0.00 min
Lab File: B0022356.D
Acq: 29 Aug 2011 2:25 pm

Tgt Ion: 83 Resp: 716831

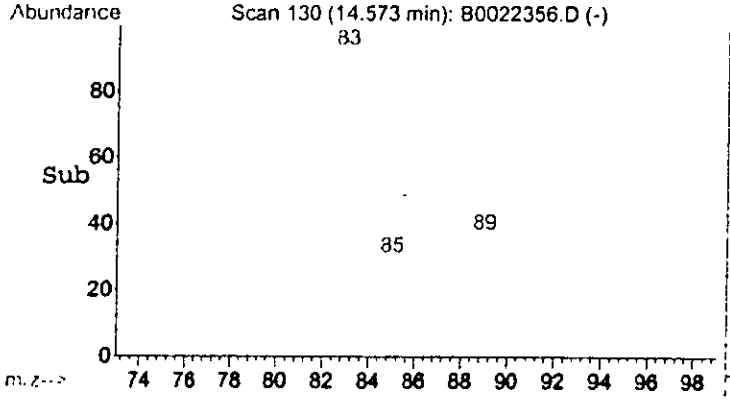


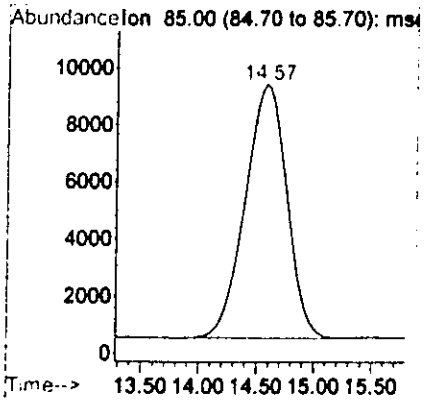




#3
#2 perc ion
Concen: 1.72 ug/L
RT: 14.57 min Scan# 130
Delta R.T. -0.00 min
Lab File: B0022356.D
Acq: 29 Aug 2011 2:25 pm

Tgt Ion: 85 Resp: 222380





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022357.D Vial: 8
Acq On : 29 Aug 2011 2:46 pm Operator: B.ALLGEIER
Sample : std7 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:10 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 15:03:11 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.54	89	274397	1.00	ug/L	-0.04
Target Compounds						Qvalue
2) Perchlorate	14.50	83	1912716	5.53	ug/L	100
3) #2 perc ion	14.54	85	590674	5.01	ug/L	100

Ratio
3.24

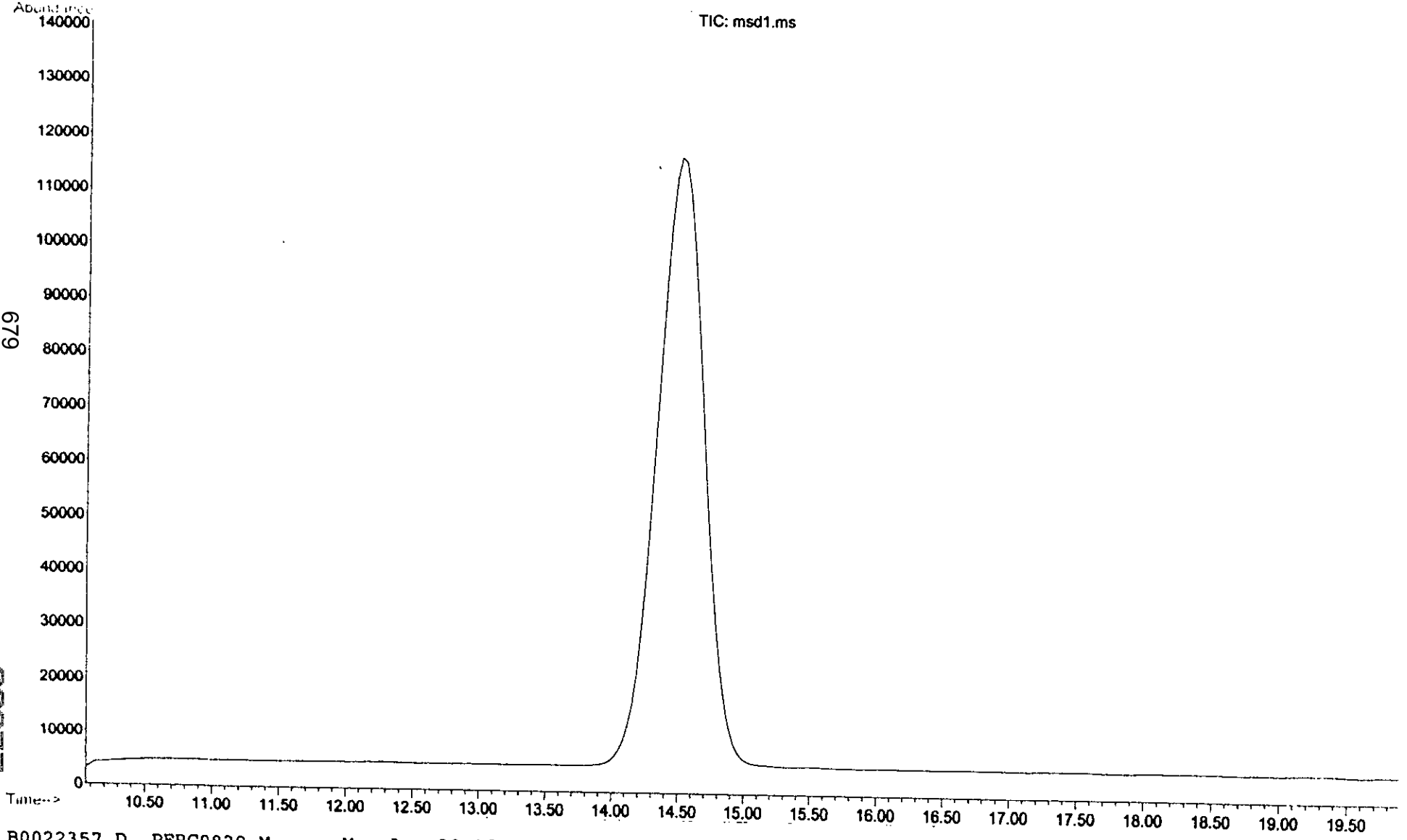
BA
8/29

(#) = qualifier out of range (m) = manual integration
B0022357.D PERC0829.M Mon Aug 29 15:10:19 2011

Quantitation Report

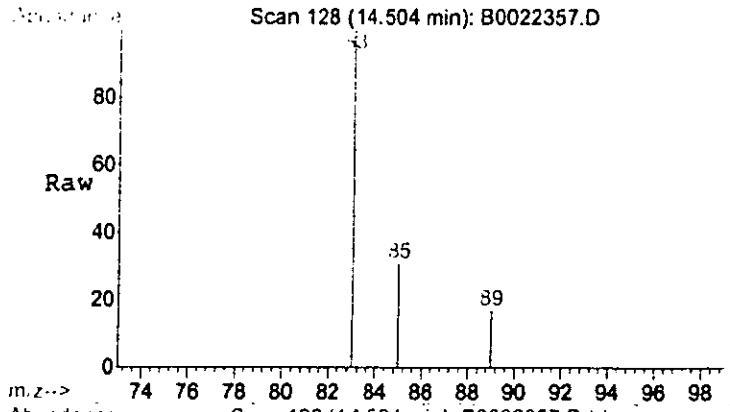
Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022357.D Vial: 8
Acq On : 29 Aug 2011 2:46 pm Operator: B.ALLGEIER
Sample : std7 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:10 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 15:03:11 2011
Response via : Initial Calibration



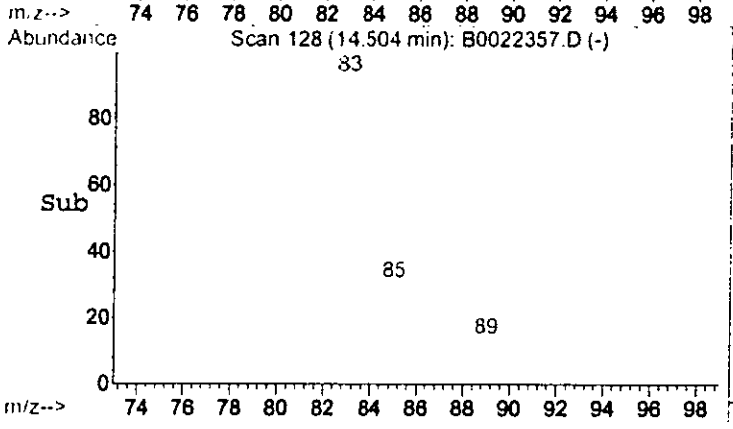
679

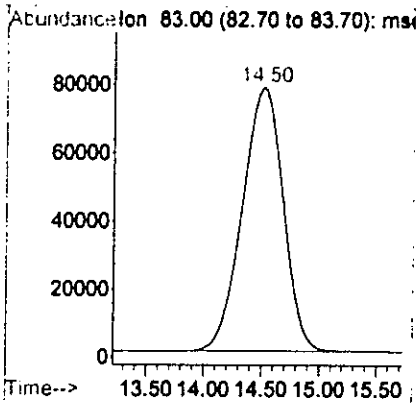
B0022357.D PERC0829.M Mon Aug 29 15:10:20 2011

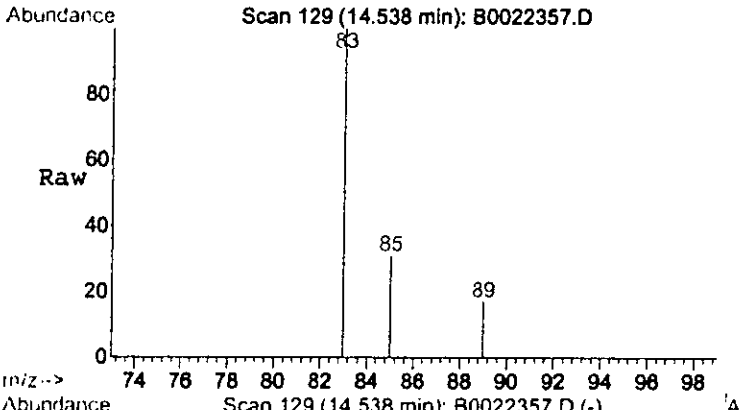


#2
Perchlorate
Concen: 5.53 ug/L
RT: 14.50 min Scan# 128
Delta R.T. -0.06 min
Lab File: B0022357.D
Acq: 29 Aug 2011 2:46 pm

Tgt Ion: 83 Resp: 1912716

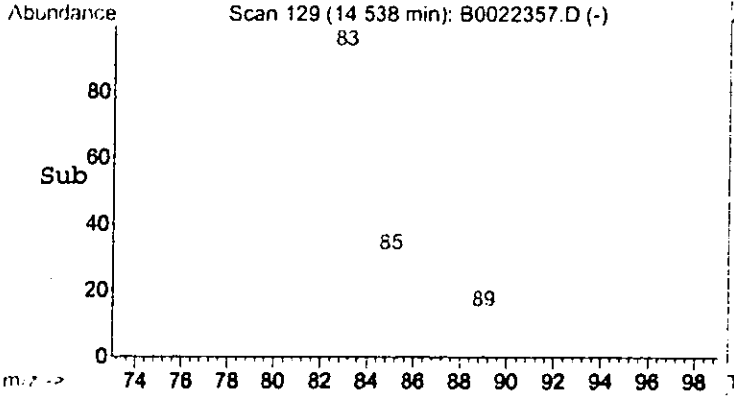


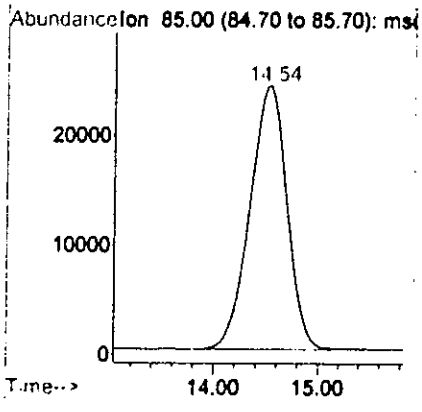




#3
#2 perc ion
Concen: 5.01 ug/L
RT: 14.54 min Scan# 129
Delta R.T. -0.04 min
Lab File: B0022357.D
Acq: 29 Aug 2011 2:46 pm

Tgt Ion: 85 Resp: 590674





Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022350.D Vial: 1
Acq On : 29 Aug 2011 12:15 pm Operator: B.ALLGEIER
Sample : INST BLK Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) O18LP	14.57	89	274400	1.00 ug/L	0.61
Target Compounds					Qvalue
2) Perchlorate	14.50	83	11038	0.03 ug/L	100
3) #2 perc ion	14.54	85	4601	0.04 ug/L	100

Ratio
2.40

Q-DEL

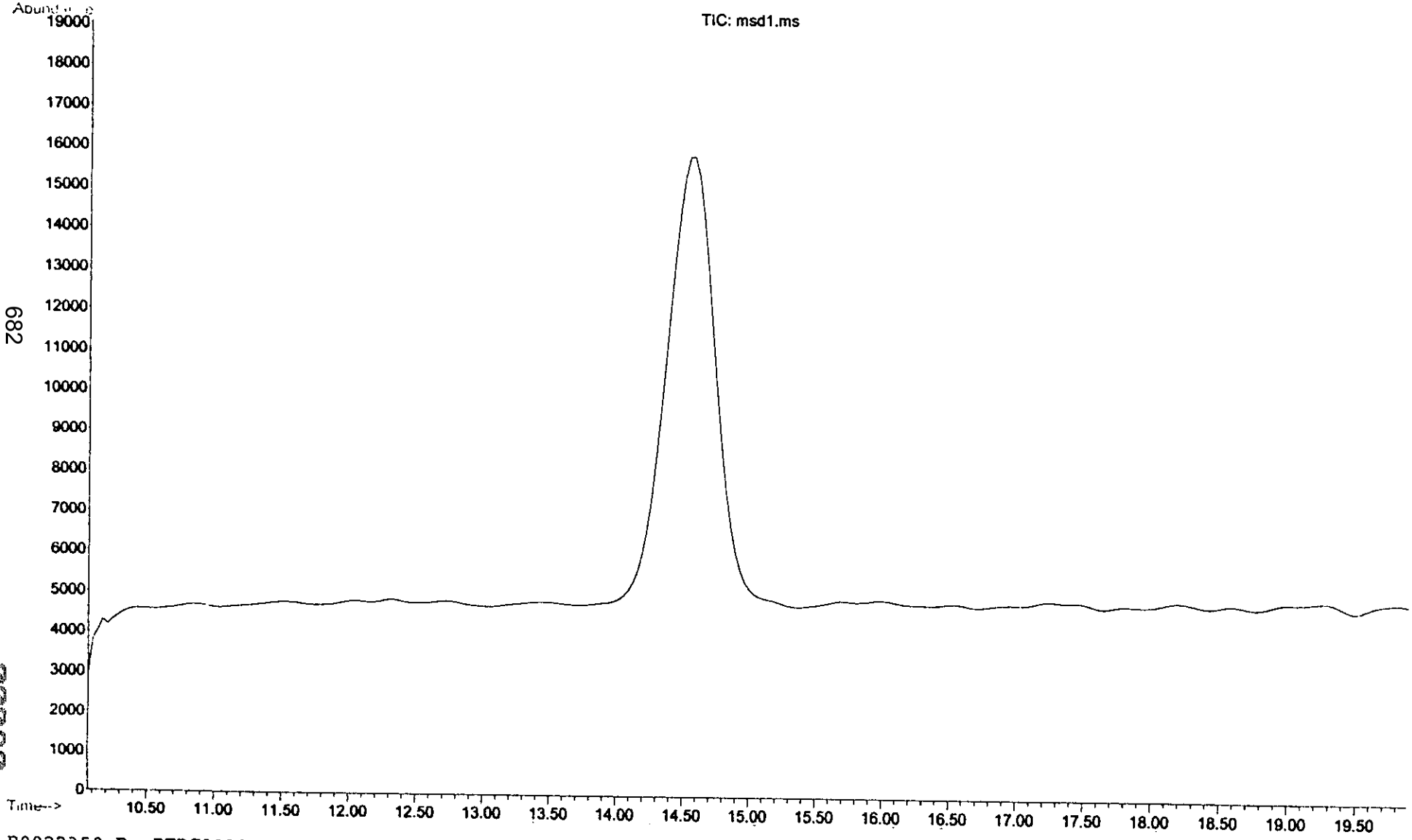
BA
8/29

(#) = qualifier out of range (m) = manual integration
B0022350.D PERC0829.M Mon Aug 29 14:02:31 2011

Quantitation Report

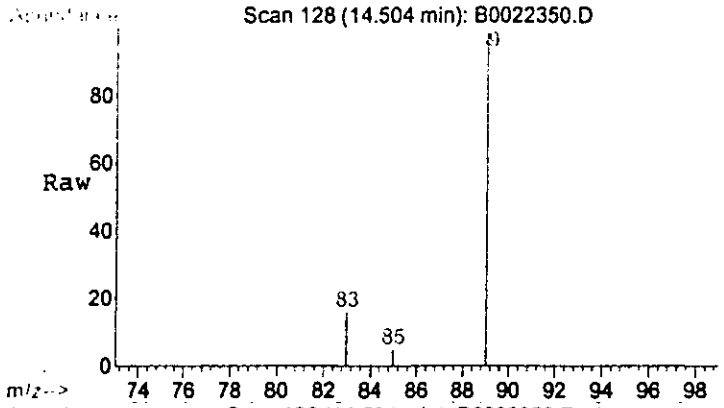
Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022350.D Vial: 1
Acq On : 29 Aug 2011 12:15 pm Operator: B.ALLGEIER
Sample : INST BLK Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 14:02 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 08 12:15:25 2011
Response via : Initial Calibration



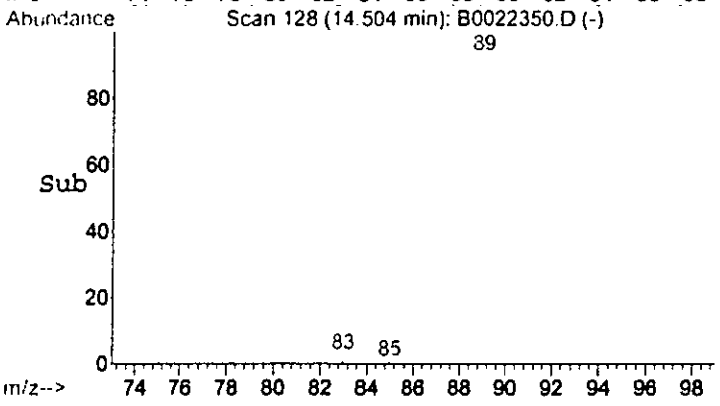
682

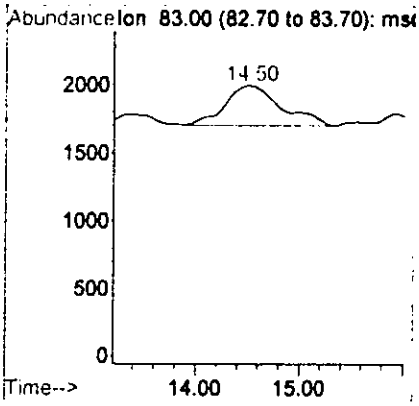
B0022350.D PERC0829.M Mon Aug 29 14:02:32 2011

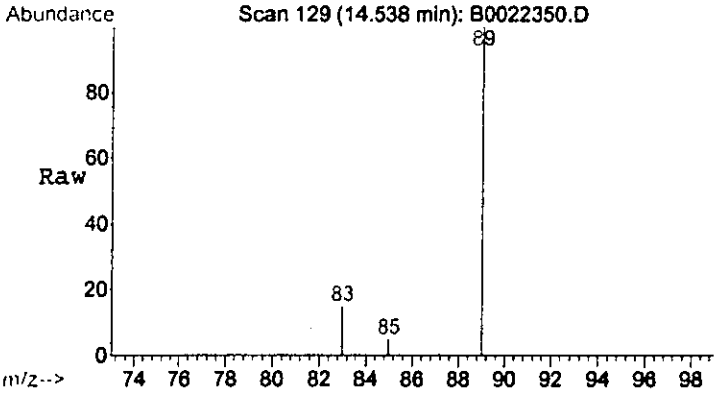


#2
Perchlorate
Concen: 0.03 ug/L
RT: 14.50 min Scan# 128
Delta R.T. 0.54 min
Lab File: B0022350.D
Acq: 29 Aug 2011 12:15 pm

Tgt Ion: 83 Resp: 11038

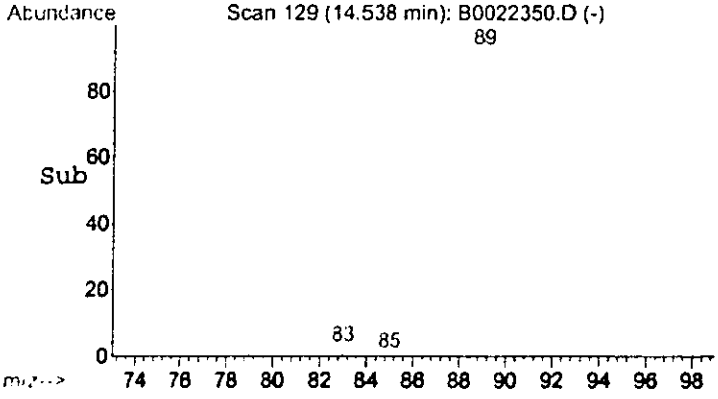


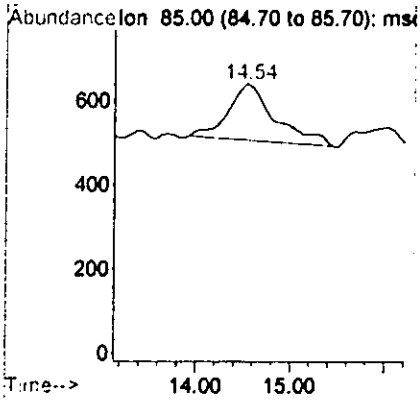




#3
#2 perc ion
Concen: 0.04 ug/L
RT: 14.54 min Scan# 129
Delta R.T. 0.57 min
Lab File: B0022350.D
Acq: 29 Aug 2011 12:15 pm

Tgt Ion: 85 Resp: 4601





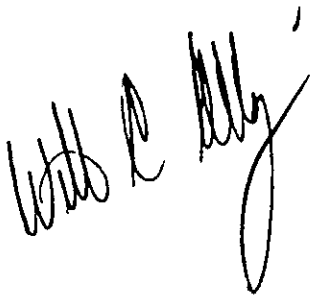
Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022358.D Vial: 9
Acq On : 29 Aug 2011 3:08 pm Operator: B.ALLGEIER
Sample : icv Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 15:13:22 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.70min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	O18LP	1.000	1.000	0.0	102	-0.03
2	Perchlorate	1.280	1.167	8.8	94	-0.01
3	#2 perc ion	0.430	0.361	16.0	93	-0.03



(#) = Out of Range SPCC's out = 0 CCC's out = 0
B0022358.D PERC0829.M Mon Aug 29 15:29:41 2011 Page 1

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022358.D Vial: 9
Acq On : 29 Aug 2011 3:08 pm Operator: B.ALLGEIER
Sample : icv Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:29 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 15:13:22 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	14.54	89	280538	1.00	ug/L	-0.03
Target Compounds						Qvalue
2) Perchlorate	14.54	83	327396	0.91	ug/L	100
3) #2 perc ion	14.54	85	101209	0.84	ug/L	100

Ratio
3.23

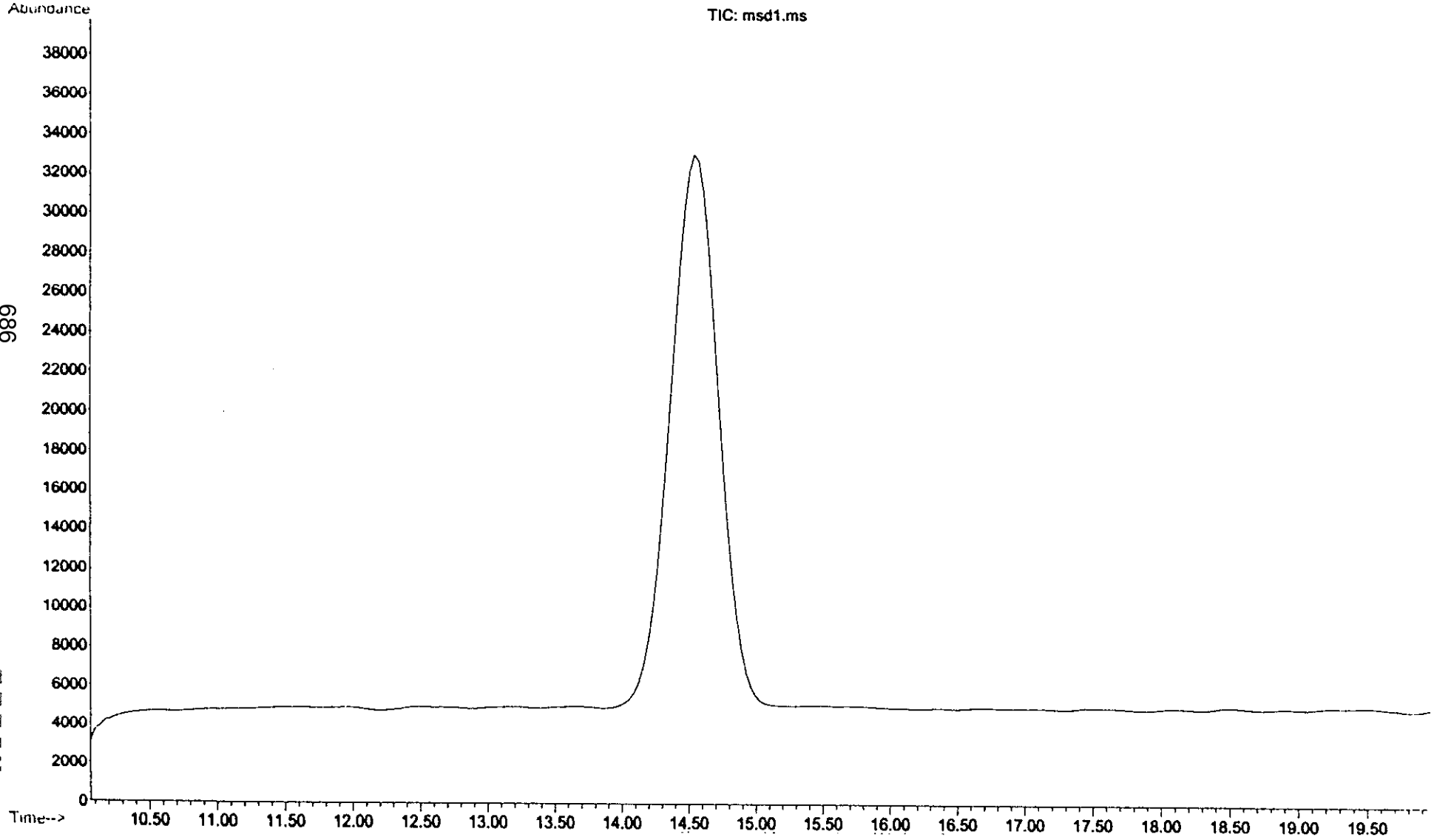
BA
9/29

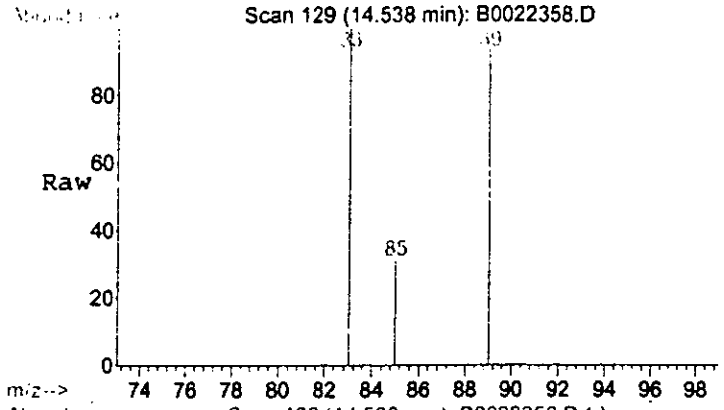
(#) = qualifier out of range (m) = manual integration
B0022358.D PERC0829.M Mon Aug 29 15:29:14 2011 Page 1

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\082911\B0022358.D Vial: 9
Acq On : 29 Aug 2011 3:08 pm Operator: B.ALLGEIER
Sample : icv Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 15:29 2011 Quant Results File: PERC0829.RES

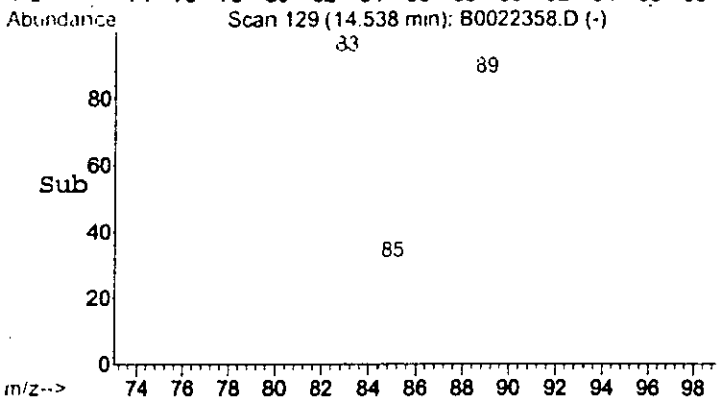
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 15:13:22 2011
Response via : Initial Calibration

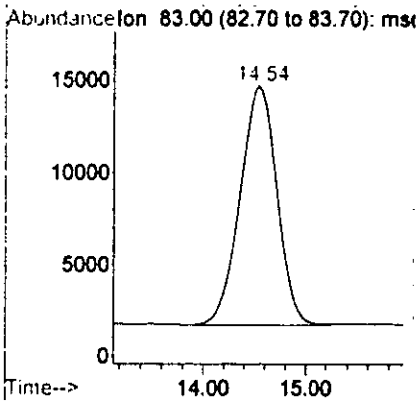


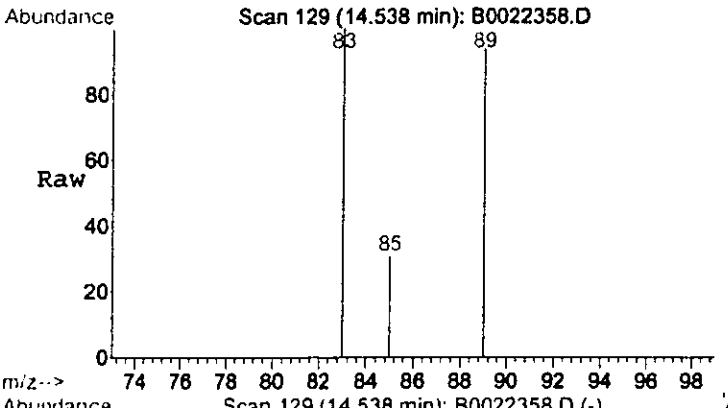


#2
Perchlorate
Concen: 0.91 ug/L
RT: 14.54 min Scan# 129
Delta R.T. -0.01 min
Lab File: B0022358.D
Acq: 29 Aug 2011 3:08 pm

Tgt Ion: 83 Resp: 327396

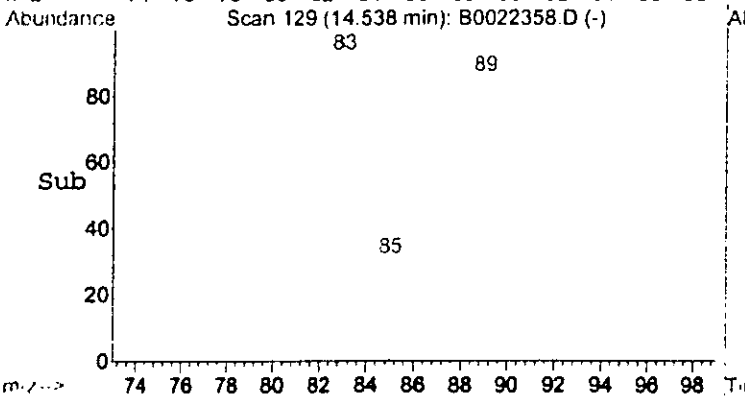


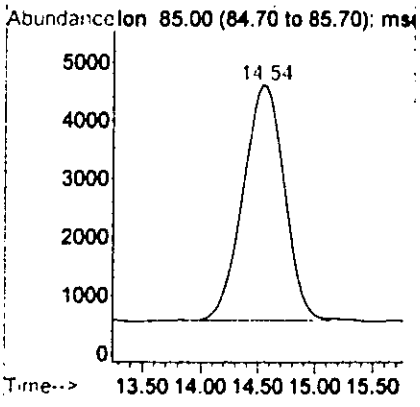




#3
#2 perc ion
Concen: 0.84 ug/L
RT: 14.54 min Scan# 129
Delta R.T. -0.03 min
Lab File: B0022358.D
Acq: 29 Aug 2011 3:08 pm

Tgt Ion: 85 Resp: 101209





Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Mon Aug 29 15:13:22 2011
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	0	1	J:\ACQUDATA\HPLC02\DATA\082911\B0022351.D
2	2	0	1	J:\ACQUDATA\HPLC02\DATA\082911\B0022352.D
3	3	1	1	J:\ACQUDATA\HPLC02\DATA\082911\B0022353.D
4	4	1	1	J:\ACQUDATA\HPLC02\DATA\082911\B0022354.D
5	5	1	1	J:\ACQUDATA\HPLC02\DATA\082911\B0022355.D
6	6	2	1	J:\ACQUDATA\HPLC02\DATA\082911\B0022356.D
7	7	5	1	J:\ACQUDATA\HPLC02\DATA\082911\B0022357.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 29 14:05 2011	Aug 29 14:03 19111	29 Aug 2011 12:37 pm
2	2	Aug 29 14:05 2011	Aug 29 14:02 19111	29 Aug 2011 12:58 pm
3	3	Aug 29 14:05 2011	Aug 29 14:04 19111	29 Aug 2011 1:20 pm
4	4	Aug 29 15:02 2011	Aug 29 15:00 19111	29 Aug 2011 1:41 pm
5	5	Aug 29 15:03 2011	Aug 29 15:01 19111	29 Aug 2011 2:03 pm
6	6	Aug 29 15:03 2011	Aug 29 15:02 19111	29 Aug 2011 2:25 pm
7	7	Aug 29 15:10 2011	Aug 29 15:10 19111	29 Aug 2011 2:46 pm

PERC0829.M Mon Aug 29 15:31:10 2011

```
name print_ratios
!This must be specified for each unique method.
!Change the following lines for your method criteria
!calcratio [target mass],[comparison mass],[lower limit(%)],[upper limit(%)]

      calcratio 51, 198, 30, 60
      calcratio 68,  69,  0,  2
      calcratio 69, 198,  0,100
      calcratio 70,  69,  0,  2
      calcratio 127,198, 40, 60
      calcratio 197,198,  0,  1
      calcratio 198,198,100,100
      calcratio 199,198,  5,  9
      calcratio 275,198, 10, 30
      calcratio 365,198,  1,100
      calcratio 441,443,  0,100
      calcratio 442,198, 40,100
      calcratio 443,442, 17, 23
    return

name init_parms
  lastprint$=" "
  method$="DFTPP"      ! method name. (Appears at top of report)
  base_mass=198        ! basepeak for comparison.
  other_base=-1        ! set to value for alternate basepeak,-1 for none.
  n_comparisons=13     ! number of relative abundance comparisons to be made in "print_ratios".
  return
```


00087

```
name print_ratios
!This must be specified for each unique method.
!Change the following lines for your method criteria
!calcratio [target mass],[comparison mass],[lower limit(%)],[upper limit(%)]

     calcratio  50, 95, 15, 40
     calcratio  75, 95, 30, 60
     calcratio  95, 95,100,100
     calcratio  96, 95,  5,  9
     calcratio 173,174,  0,  2
     calcratio 174, 95, 50,100
     calcratio 175,174,  5,  9
     calcratio 176,174, 95,101
     calcratio 177,176,  5,  9
    return

name init_parms
  lastprint$=" "
  method$="BFB"    ! method name. (Appears at top of report)
  base_mass=95       ! basepeak for comparison.
  other_base=-1      ! set to value for alternate basepeak,-1 for none.
  n_comparisons=9    ! number of relative abundance comparisons to be made in "print_ratios".
  return
```


00088

```
!  Detailed Report Print Options
!  Set the options for the desired output
Name TEMP
p_founds = 1      ! 0=print all spectra and/or EICP, 1 = print spectra for
                  !   compounds considered as founds
p_istd   = 0      ! 1=Print spectra for ISTD's
p_surr   = 0      ! 1=Print spectra for Surrogates (compound type = S)
p_mdl    = 0.00   ! Minimum Reporting Limit. Compounds with concentrations
                  ! less than this value will be considered not found
p_qual   = 1      ! report compounds whose qualifiers are out of range as
                  ! hits.  0 = do not report out of range as hit.
                  !        1 = report out of range as hit
p_scan   = 0      ! include scan# or quant ion in summary report
                  ! 0 = quant ion
                  ! 1 = scan number
p_sumsec = 0      ! Include secondary hits in the summary report
                  ! 0 = Do not include
                  ! 1 = Include
p_detail = 0      ! 0 = scan detailed report
                  ! 1 = sim  detailed report
tic_pages = 1     ! x = number of pages for printing of Total Ion
                  !     chromatogram.  0 = Do Not Print TIC
p_scaletime = 0.00  ! Use largest peak after scaletime for y scale
p_scaletime2 = 0.00  ! Use largest peak after scaletime for y scale Sig 2
p_scaletime3 = 0.00  ! Use largest peak after scaletime for y scale Sig 3
p_format = 1      ! Print the chromatograms in Portrait(0),Landscape(1) Mode
istd_dil = 0      ! Apply multiplier to Internal Standards
surr_dil = 1      ! Apply multiplier to Surrogates
targ_dil = 1      ! Apply multiplier to Target compounds
p_labels = 0      ! Print labels
p_mdl_compound = 0 ! Global (0) or Compound Specific (1) mdl evaluation
rem Temp
```

```
!  This file contains a list of items
!  to be included in the continuing calibration report
!  This file can be edited using notepad to
!  uncomment items to be included in the report

name cc_options
   cc_per_low= 50.00   !Specifies the lower and upper area limits
   cc_per_hi = 150.0  !Specifies the lower and upper area limits
   cc_per_max = 25.00  !Specifies the maximum deviation in RF's
   cc_relresp_min = 0.000 ! Specifies the minimum relatative response factor
   cc_level$ = "5"  !Level identifier of initial level with same
                    !concentration as continuing level
   cc_time = 0.70    !Retention time deviation limit (min).
   cc_rettime = 1  !Update Quant Database Retention Times when updating
                    ! continuing calibration level 0=no, 1=yes
   cc_refspec = 0 !Update Quant Database Reference Spectra when updating
                    ! continuing calibration level 0=no, 1=yes
   cc_report = 0    !report by rrf (0) or calc conc drift (1)
   cc_qatime = 12.00 !allowed time period for QACHK
   cc_qamin =  50.00 !minimum area %
   cc_qamax = 200.00 !maximum area %
remove cc_options
```


00090

```
!
!  Enter the values for the following parameters for
!  use in generating TIC's
LSC_intp$="LSCINT.P"      !  Integration Parameter File Name
percentistd =  10     !cut off for reporting based on area comparison
                    ! of closest internal standard
LSC_MAX = 20          !maximum number of LSC's to report
tic_lib$="demo.l"         !TIC library to USE
LSC_estd=100000     ! Response for External Standard Comparisons per unit amount
lsc_alkanes = 0  !for exclusion of user-named alkanes (DEL) ALKANE from lscnames.ini
lsc_pkpur = 0         !use Peak Purity or not
lsc_range = 0         !Entire chrom (0) or specified range (1)
lsc_start = 0         !start range if lsc_range = 1
lsc_end = 0           !end range if lsc_range = 1
remove ticintparm
```


00091

DATA ANALYSIS PARAMETERS

Method Name: J:\ACQUDATA\HPLC02\METHODS\PERC0829.M

Percent Report Settings

Sort By: Signal

Output Destination
    Screen: No
    Printer: Yes
    File: No

Integration Events: Meth Default

Generate Report During Run Method: Yes

Signal Correlation Window: 0.020

Qualitative Report Settings

Peak Location of Unknown: Apex

Library to Search	Minimum Quality
DEMO.L	0

Integration Events: Meth Default

Report Type: Summary

Output Destination
    Screen: No
    Printer: Yes
    File: No

Generate Report During Run Method: Yes

Quantitative Report Settings

Report Type: Detailed

Output Destination
    Screen: No
    Printer: Yes
    File: No

Generate Report During Run Method: No

Perchlorate by DOD
Calibration Last Updated: Mon Aug 29 15:13:22 2011

Reference Window: 2.00 Minutes

Correlation Window: 0.20 minutes
Default Multiplier: 1.00
Default Sample Concentration: 0.00

Compound Information

---

1) O18LP (ISTD TR)

Ret. Time 14.56 min., Extract & Integrate from 12.06 to 17.06 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 89.00			*** METH DEFAULT ***

Lvl	ID	Conc (ug/L)	Response
1		1.000	272071
2		1.000	275950
3		1.000	278678
4		1.000	273652
5		1.000	274382
6		1.000	276935
7		1.000	274397

Qualifier Peak Analysis OFF ISTD conc: 1.000 ug/L
Curve Fit: Avg. RF

---

2) Perchlorate ( )

Ret. Time 14.55 min., Extract & Integrate from 12.05 to 17.05 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 83.00			*** METH DEFAULT ***

Lvl	ID	Conc (ug/L)	Response
1		0.100	36141
2		0.200	69501
3		0.500	165608
4		0.750	252139
5		1.000	348185
6		2.000	716831
7		5.000	1912716

Qualifier Peak Analysis ON
Curve Fit: Avg. RF

---

3) #2 perc ion ( )

Ret. Time 14.57 min., Extract & Integrate from 12.07 to 17.07 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 85.00			*** METH DEFAULT ***

Lvl	ID	Conc (ug/L)	Response
1		0.100	13972
2		0.200	25363
3		0.500	55909
4		0.750	84038
5		1.000	108342
6		2.000	222380
7		5.000	590674

Qualifier Peak Analysis ON
Curve Fit: Avg. RF

END OF DATA ANALYSIS PARAMETERS

Mon Aug 29 15:31:14 2011

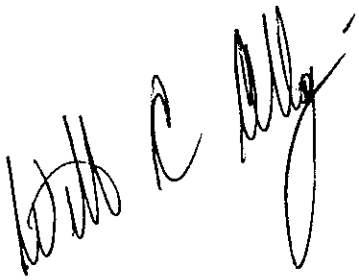
Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023502.D Vial: 6
Acq On : 3 Nov 2011 9:55 am Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.70min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	O18LP	1.000	1.000	0.0	70	-0.45
2	Perchlorate	1.280	1.279	0.1	70	-0.45
3	#2 perc ion	0.430	0.431	-0.2	76	-0.45



(#) = Out of Range SPCC's out = 0 CCC's out = 0
B0023502.D PERC0829.M Thu Nov 03 10:29:47 2011

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023502.D Vial: 6
Acq On : 3 Nov 2011 9:55 am Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 10:29 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.08	89	191556	1.00	ug/L	-0.45
Target Compounds						Qvalue
2) Perchlorate	16.08	83	245095	1.00	ug/L	100
3) #2 perc ion	16.08	85	82554	1.00	ug/L	100

Ratio
2.97

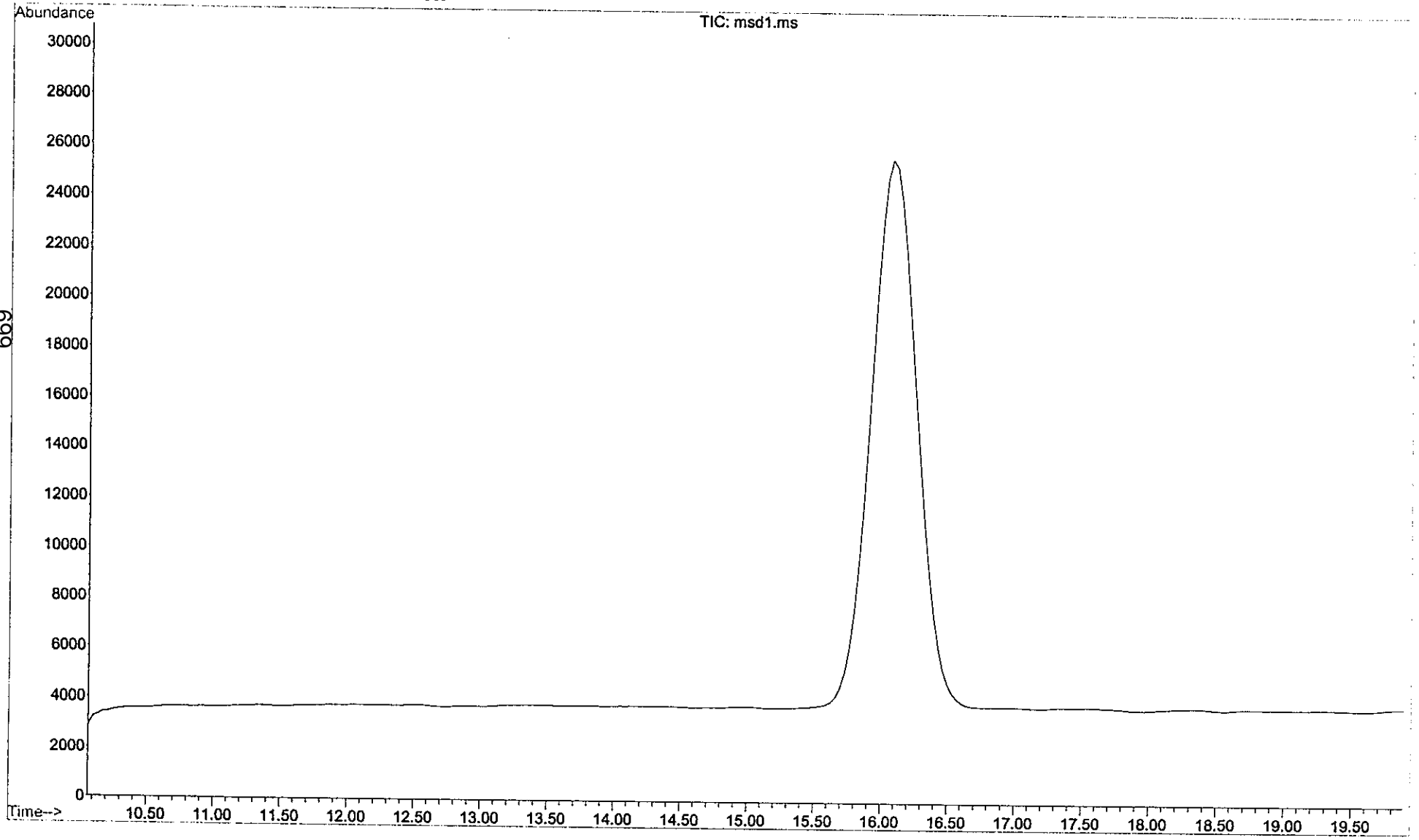
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023502.D PERC0829.M Thu Nov 03 10:29:26 2011

Quantitation Report

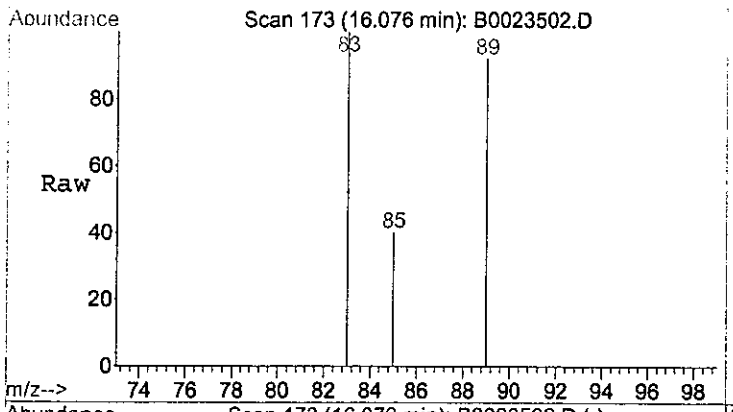
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023502.D Vial: 6
Acq On : 3 Nov 2011 9:55 am Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 10:29 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



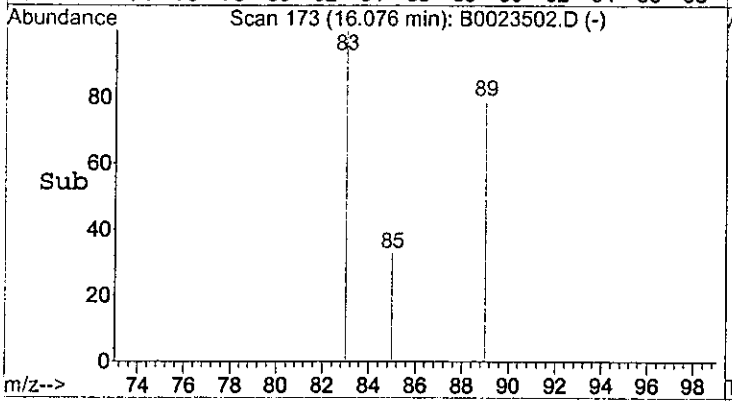
669

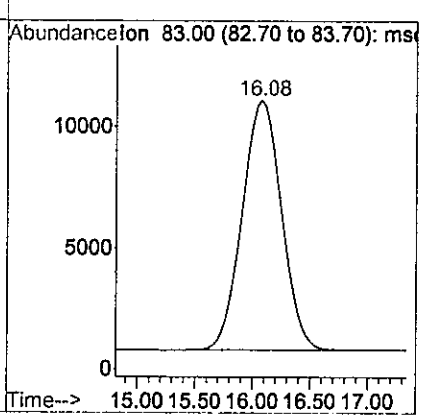
J6506

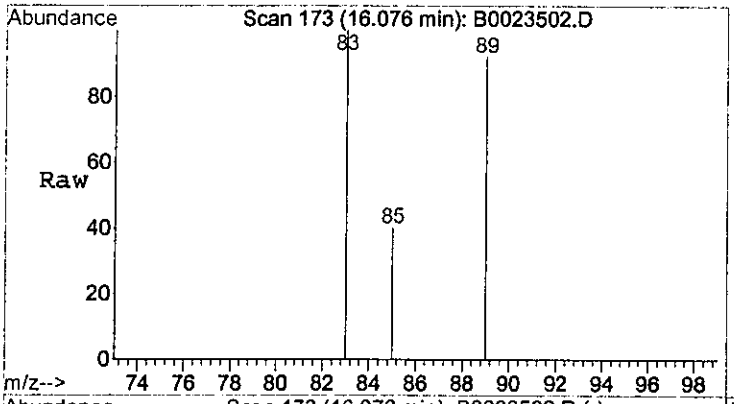


#2
Perchlorate
Concen: 1.00 ug/L
RT: 16.08 min Scan# 173
Delta R.T. -0.45 min
Lab File: B0023502.D
Acq: 3 Nov 2011 9:55 am

Tgt Ion: 83 Resp: 245095

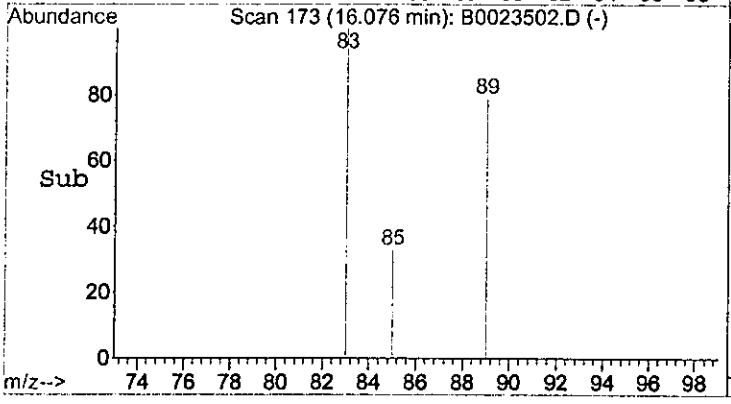


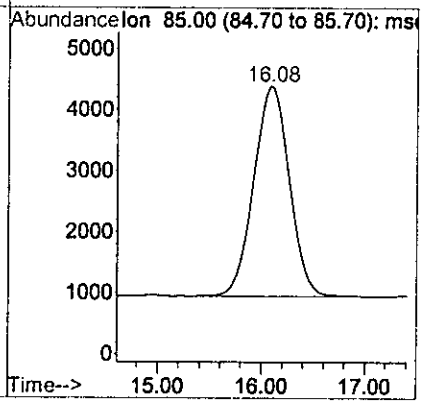




#3
#2 perc ion
Concen: 1.00 ug/L
RT: 16.08 min Scan# 173
Delta R.T. -0.45 min
Lab File: B0023502.D
Acq: 3 Nov 2011 9:55 am

Tgt Ion: 85 Resp: 82554





Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023513.D Vial: 6
Acq On : 3 Nov 2011 2:09 pm Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.70min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	O18LP	1.000	1.000	0.0	71	-0.42
2	Perchlorate	1.280	1.262	1.4	70	-0.42
3	#2 perc ion	0.430	0.419	2.6	75	-0.42

(#) = Out of Range SPCC's out = 0 CCC's out = 0
B0023513.D PERC0829.M Thu Nov 03 14:34:28 2011

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023513.D Vial: 6
Acq On : 3 Nov 2011 2:09 pm Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 14:31 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.11	89	193673	1.00	ug/L	-0.42
Target Compounds						Qvalue
2) Perchlorate	16.11	83	244330	0.99	ug/L	100
3) #2 perc ion	16.11	85	81245	0.98	ug/L	100

Ratio
3.01

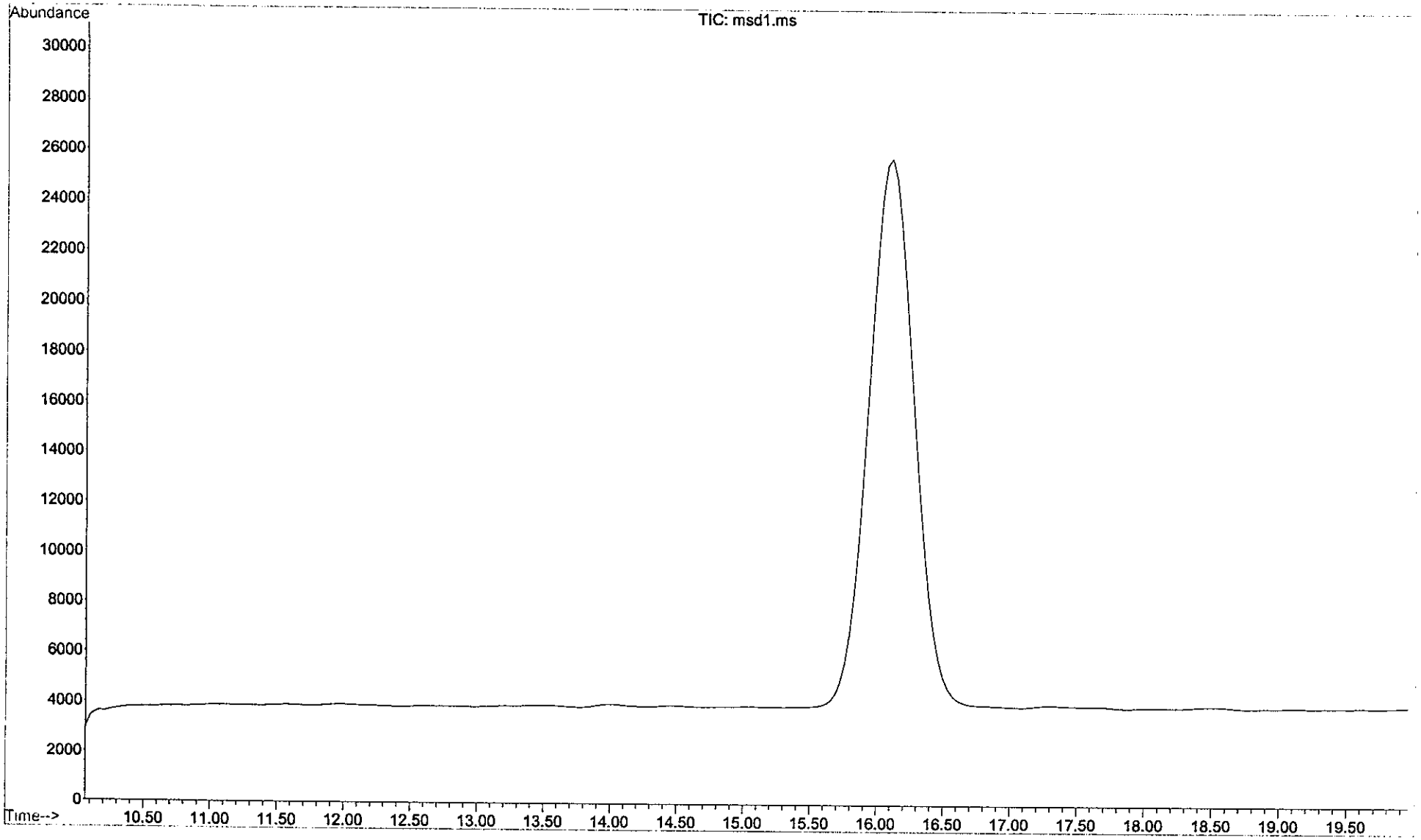
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023513.D PERC0829.M Thu Nov 03 14:37:26 2011

Quantitation Report

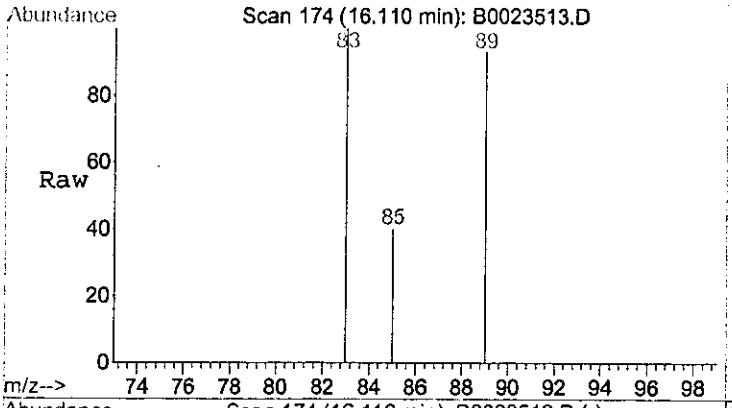
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023513.D Vial: 6
Acq On : 3 Nov 2011 2:09 pm Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 14:31 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



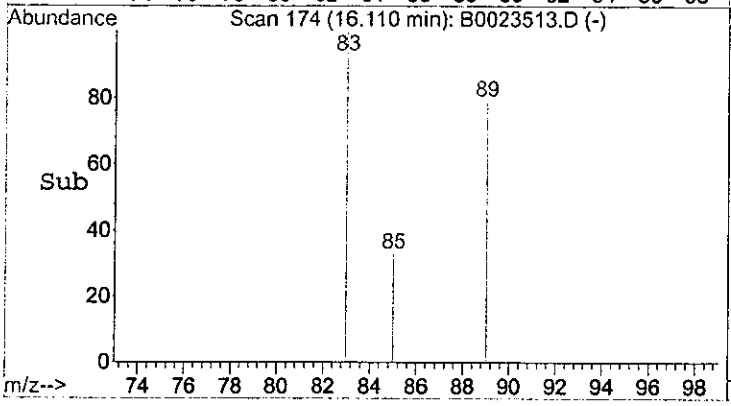
703

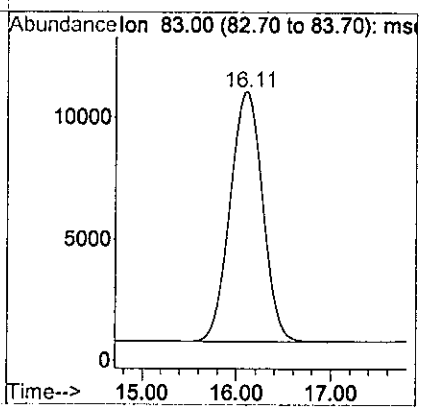
001561

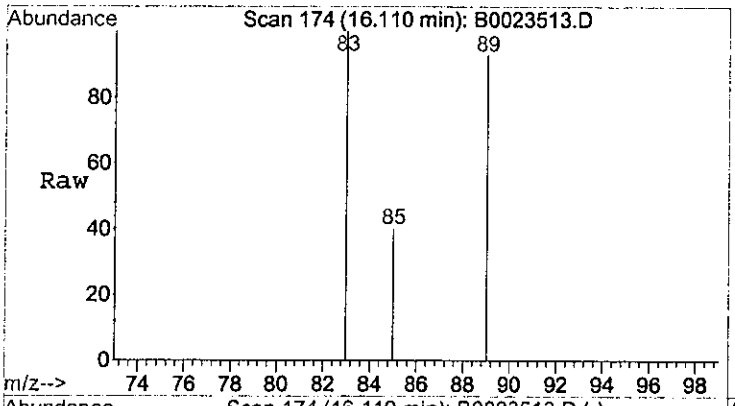


#2
Perchlorate
Concen: 0.99 ug/L
RT: 16.11 min Scan# 174
Delta R.T. -0.42 min
Lab File: B0023513.D
Acq: 3 Nov 2011 2:09 pm

Tgt Ion: 83 Resp: 244330

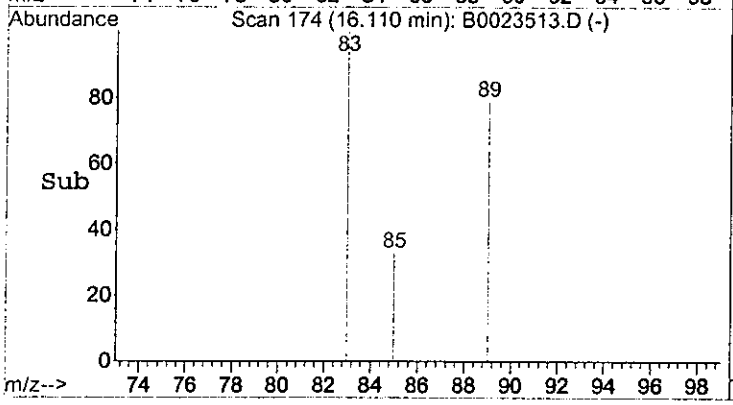


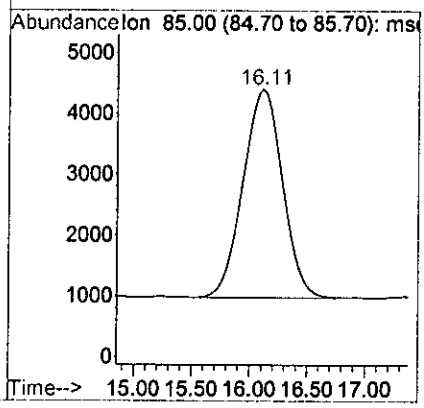




#3
#2 perc ion
Concen: 0.98 ug/L
RT: 16.11 min Scan# 174
Delta R.T. -0.42 min
Lab File: B0023513.D
Acq: 3 Nov 2011 2:09 pm

Tgt Ion: 85 Resp: 81245





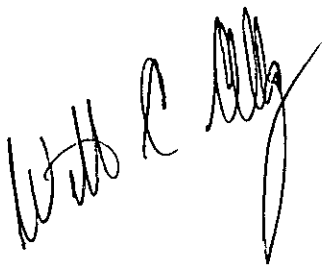
Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023518.D Vial: 6
Acq On : 3 Nov 2011 3:57 pm Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.70min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	O18LP	1.000	1.000	0.0	71	-0.49
2	Perchlorate	1.280	1.254	2.0	70	-0.49
3	#2 perc ion	0.430	0.426	0.9	77	-0.49



(#) = Out of Range SPCC's out = 0 CCC's out = 0
B0023518.D PERC0829.M Thu Nov 03 16:18:36 2011 Page 1

00103

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023518.D Vial: 6
Acq On : 3 Nov 2011 3:57 pm Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 16:18 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.04	89	195722	1.00	ug/L	-0.49
Target Compounds						Qvalue
2) Perchlorate	16.04	83	245357	0.98	ug/L	100
3) #2 perc ion	16.04	85	83303	0.99	ug/L	100

Ratio
2.95

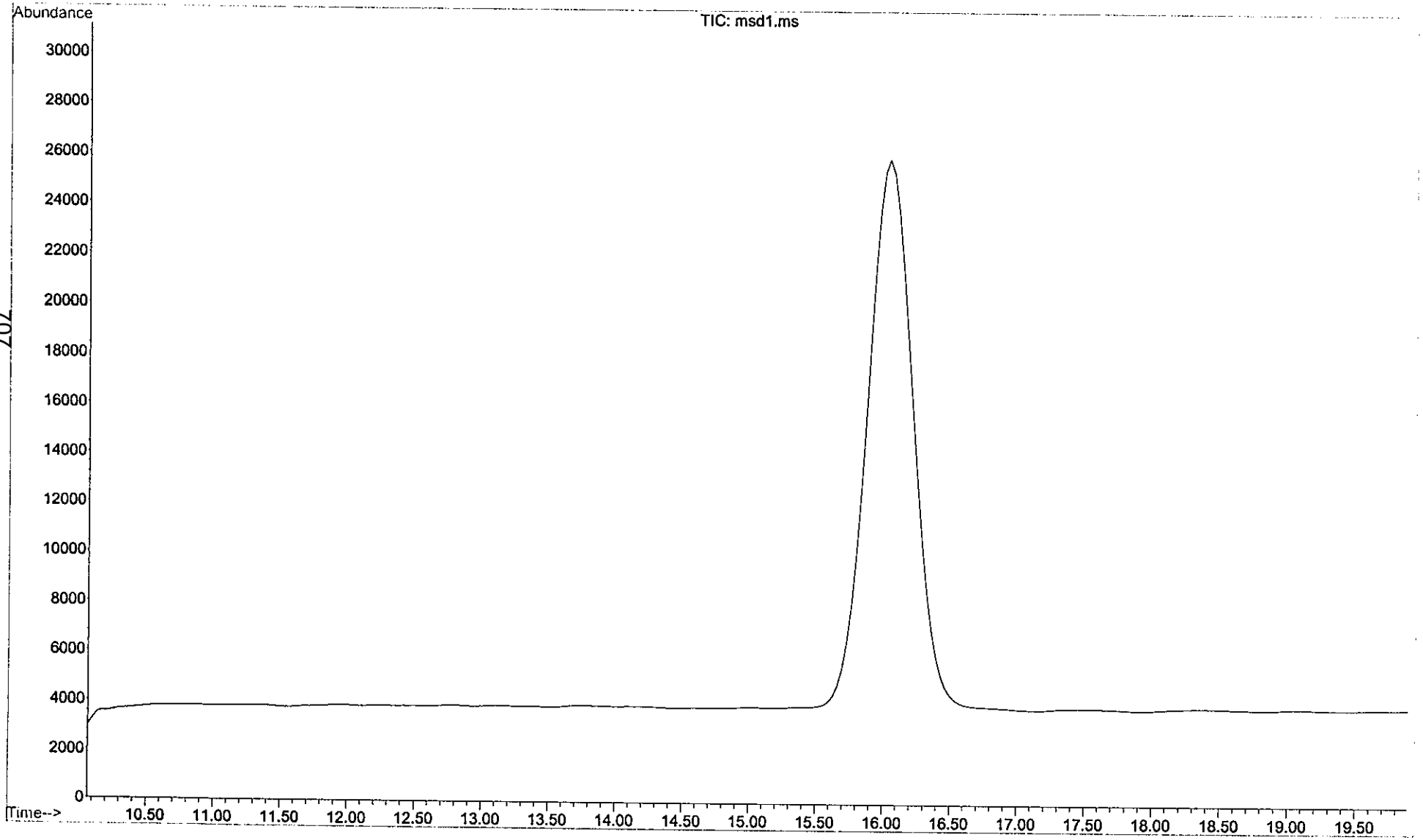
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023518.D PERC0829.M Thu Nov 03 16:18:06 2011

Quantitation Report

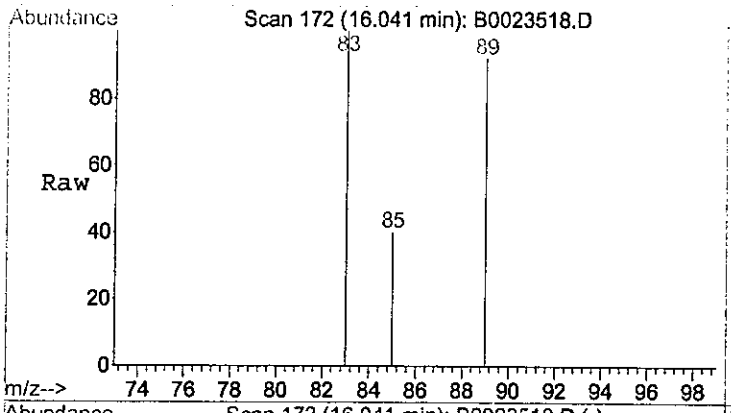
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023518.D Vial: 6
Acq On : 3 Nov 2011 3:57 pm Operator: m.pedro
Sample : ccv 1.00ppb Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 16:18 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



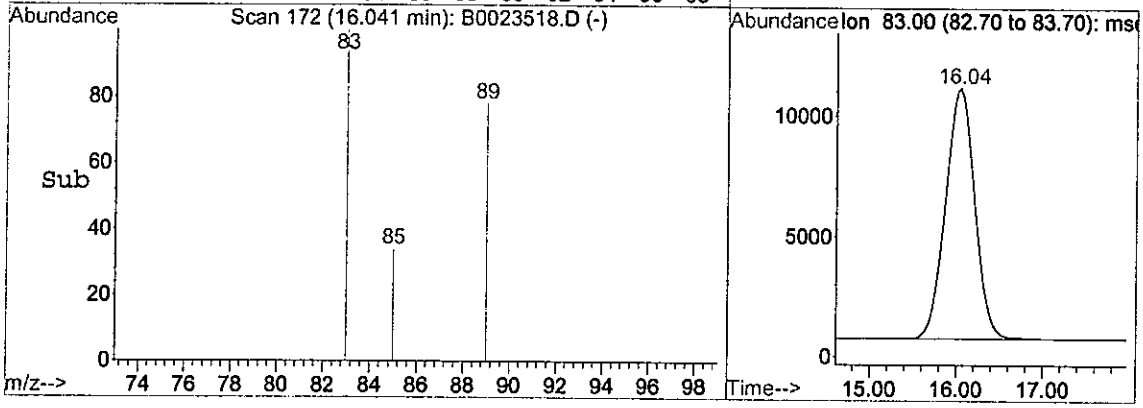
707

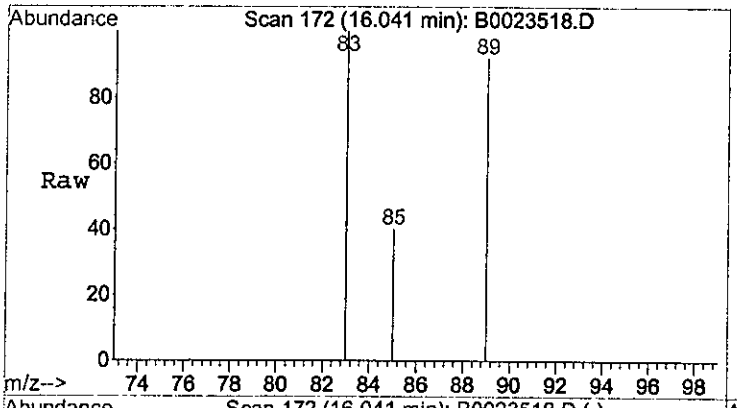
090505



#2
Perchlorate
Concen: 0.98 ug/L
RT: 16.04 min Scan# 172
Delta R.T. -0.49 min
Lab File: B0023518.D
Acq: 3 Nov 2011 3:57 pm

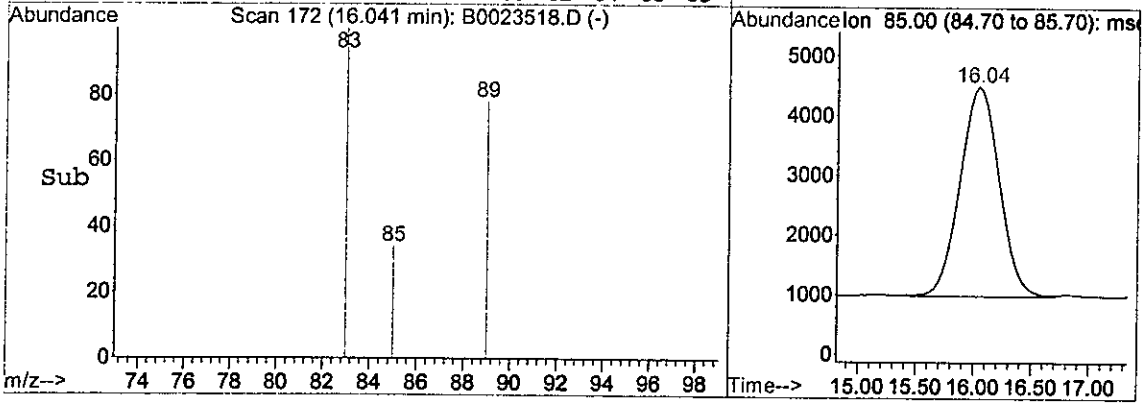
Tgt Ion: 83 Resp: 245357



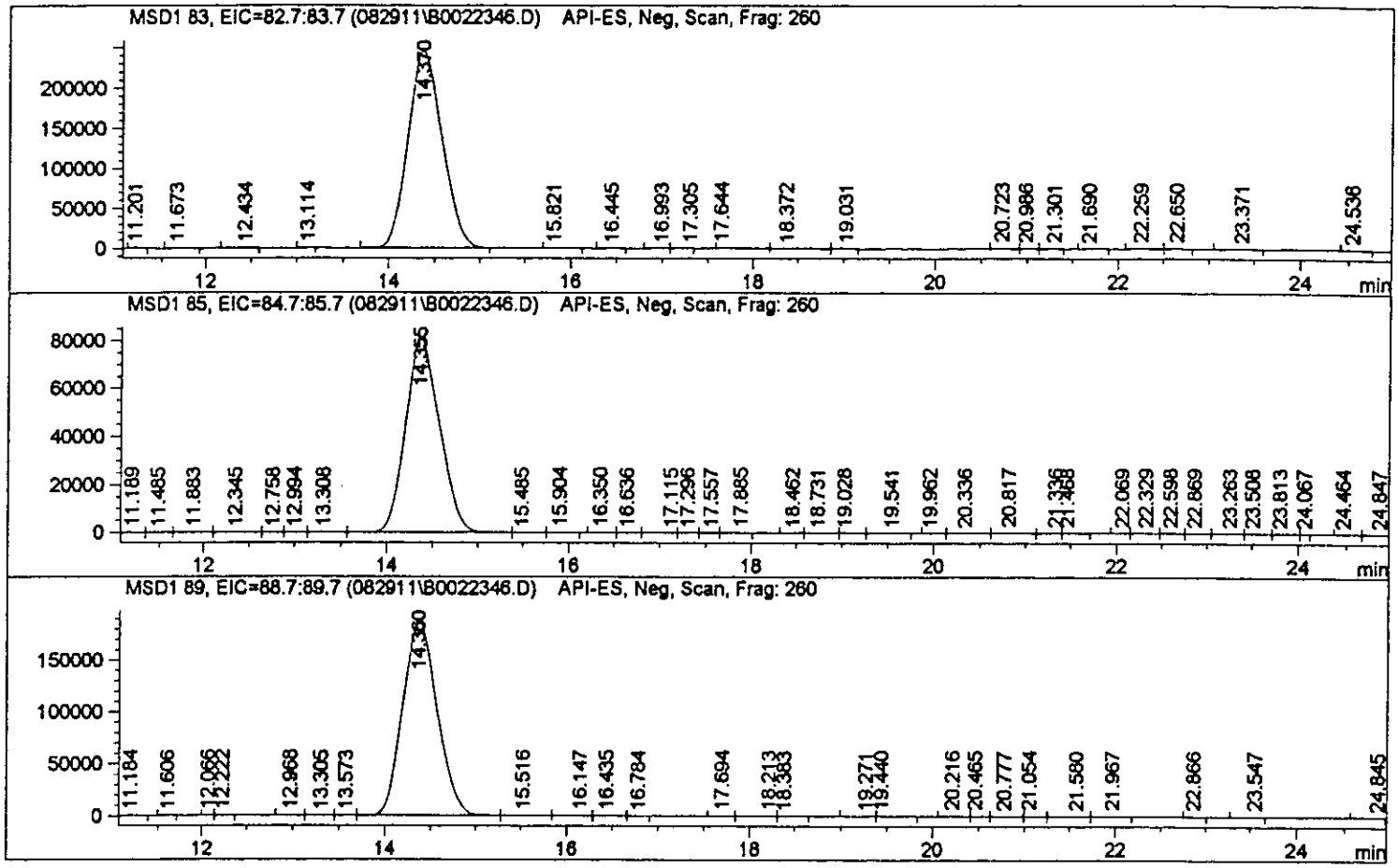


#3
#2 perc ion
Concen: 0.99 ug/L
RT: 16.04 min Scan# 172
Delta R.T. -0.49 min
Lab File: B0023518.D
Acq: 3 Nov 2011 3:57 pm

Tgt Ion: 85 Resp: 83303



```
==========================================================================
Injection Date  : 8/29/2011 10:47:26 AM          Seq. Line :   2
Sample Name     : ion/mass ccv                    Location : Vial 100
Acq. Operator   : B.ALLGEIER                         Inj :   1
Acq. Instrument : Instrument 1                  Inj Volume : 30 µl
Sequence File   : C:\HPCHEM\1\SEQUENCE\081711.S
Method          : J:\ACQUDATA\HPLC02\METHODS\PERCTUNZ.M
Last changed    : 6/24/2011 11:33:12 AM by B.ALLGEIER
SIM Perchlorate on K` column
```



==
Internal Standard Report
==

```
Sorted By             :      Signal
Calib. Data Modified  :      4/19/2007 12:57:24 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
Sample ISTD Information:
ISTD  ISTD Amount   Name
  #     [ng/ml]
----|-------------|-------------------------
  1      2.00000   Internal STD
```

BA 8/89

Signal 1: MSD1 83, EIC=82.7:83.7

RetTime [min]	Type	Area	Amt/Area ratio	Amount [ng/ml]	Grp	Name
14.370	BB	6.46688e6	3.31261	8.68473		Perchlorate

Totals without ISTD(s) : 8.68473

Signal 2: MSD1 85, EIC=84.7:85.7

RetTime [min]	Type	Area	Amt/Area ratio	Amount [ng/ml]	Grp	Name
14.355	BB	2.10866e6	9.33554	7.98063		second ion

Totals without ISTD(s) : 7.98063

Signal 3: MSD1 89, EIC=88.7:89.7

RetTime [min]	Type	Area	Amt/Area ratio	Amount [ng/ml]	Grp	Name
14.360	BB +I	4.93331e6	1.00000	2.00000		Internal STD

Totals without ISTD(s) : 0.00000

1 Warnings or Errors :

Warning : Elution order of calibrated compounds may have changed

==========

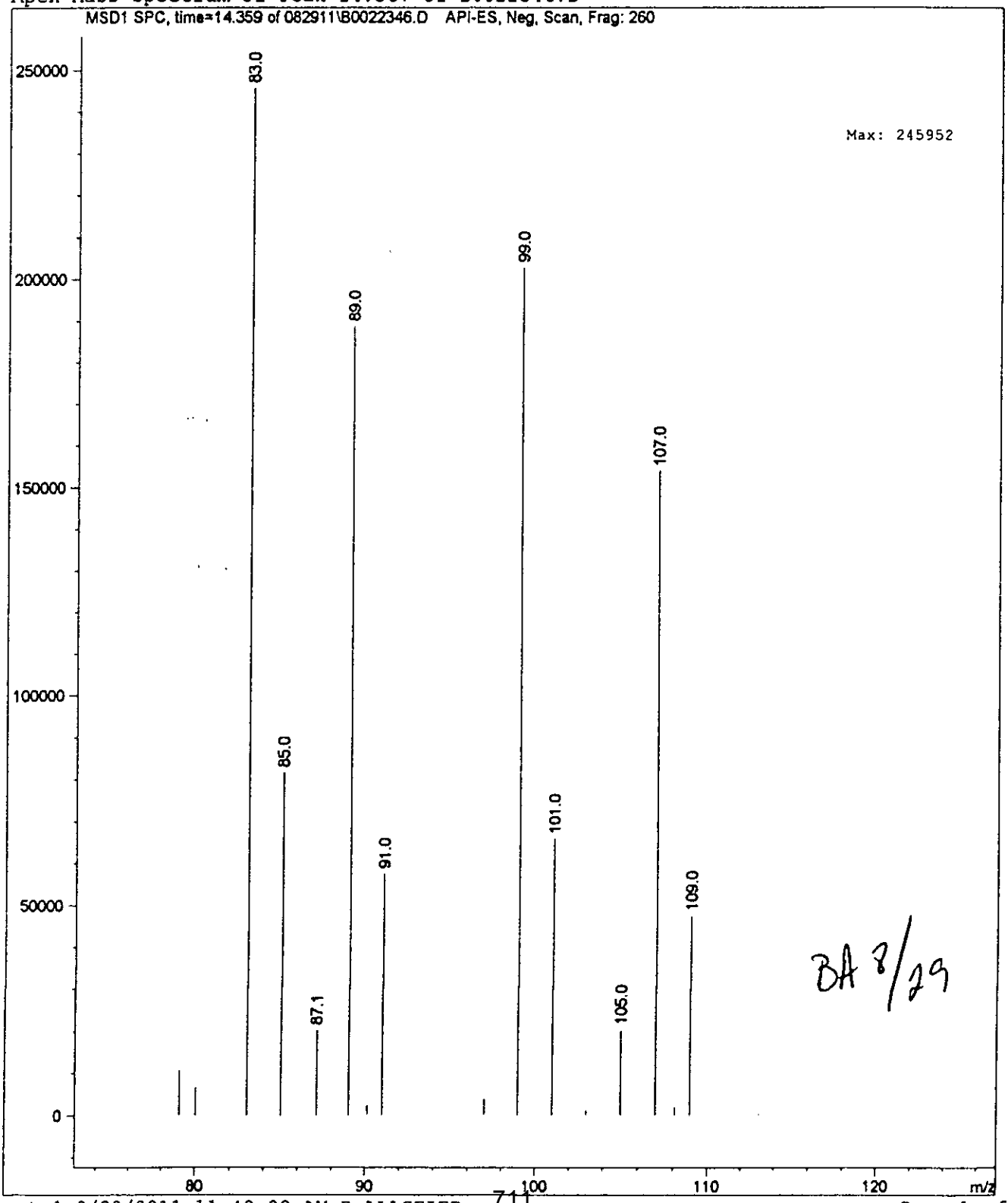
*** End of Report ***

Print of window 79: Apex Mass Spectrum of Peak 14.367 of B0022346.D

Injection Date	: 8/29/2011 10:47:26 AM	Seq. Line	: 2
Sample Name	: ion/mass ccv	Location	: Vial 100
Acq. Operator	: B.ALLGEIER	Inj	: 1
Acq. Instrument	: Instrument 1	Inj Volume	: 30 µl
Acq. Method	: J:\ACQUDATA\HPLC02\METHODS\PERCTUNZ.M		
Last changed	: 6/24/2011 11:33:12 AM by B.ALLGEIER		
Analysis Method	: J:\ACQUDATA\HPLC02\METHODS\PERCDODZ.M		
Last changed	: 8/1/2011 9:16:53 AM by B.ALLGEIER		

SIM Perchlorate on K` column

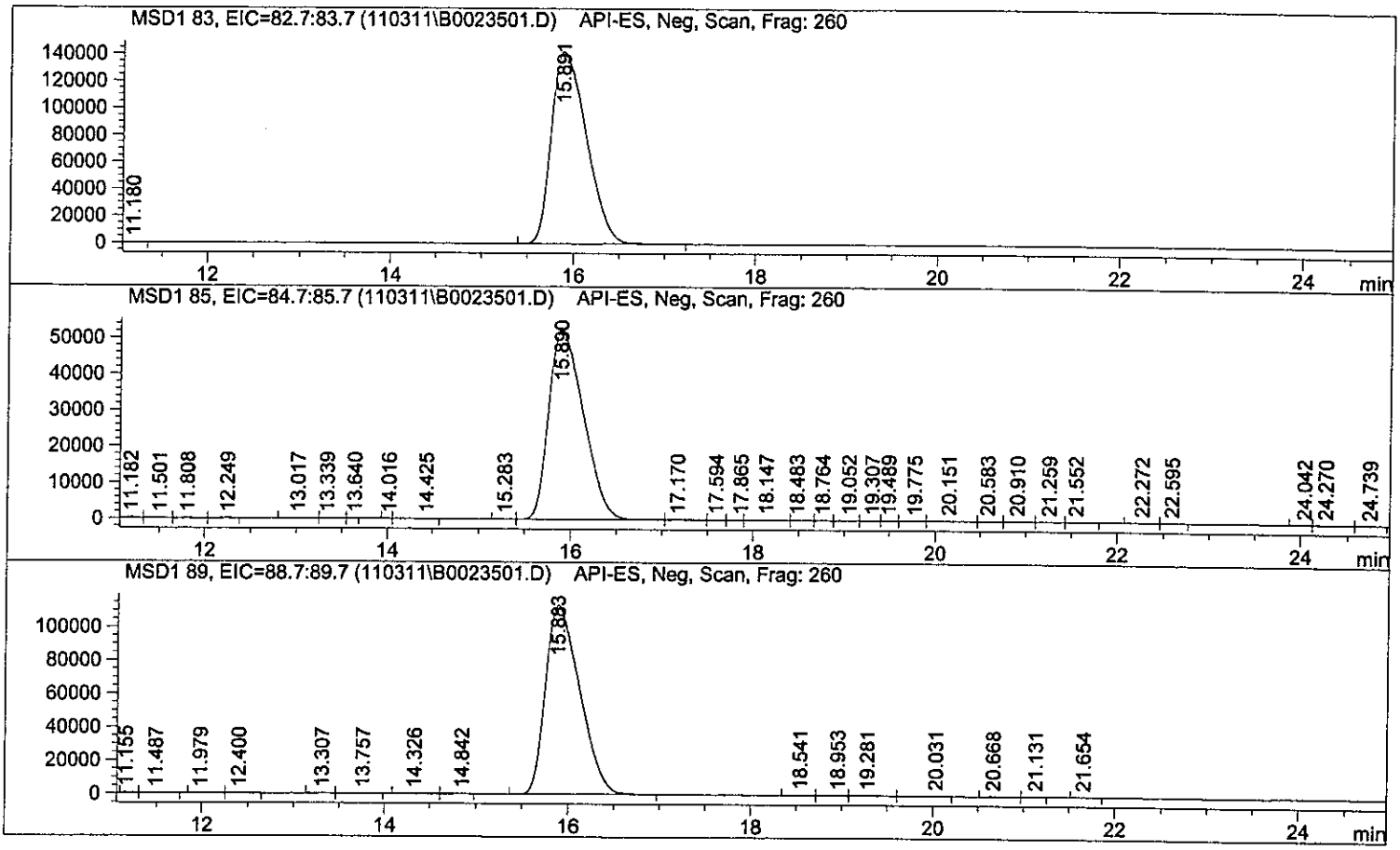
Apex Mass Spectrum of Peak 14.367 of B0022346.D



BA 8/29

00199

```
==========================================================================
Injection Date  : 11/3/2011 9:28:13 AM
Sample Name     : ion/mass ccv                    Location : Vial 100
Acq. Operator   : m.pedro                            Inj :   1
Acq. Instrument : Instrument 1                 Inj Volume : 30 µl
Method          : J:\ACQUDATA\HPLC02\METHODS\PERCTUNZ.M
Last changed    : 11/3/2011 9:26:25 AM by m.pedro
SIM Perchlorate on K` column
```




```
==========================================================================
                        Internal Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      4/19/2007 12:57:24 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
Sample ISTD Information:
ISTD  ISTD Amount   Name
  #     [ng/ml]
----|-------------|-------------------------
  1      2.00000   Internal STD


Signal 1: MSD1 83, EIC=82.7:83.7

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]                       ratio      [ng/ml]
-------|------|----------|----------|----------|--|-----------------
 11.180 BBA    1109.50000    3.31261    4.62428     Perchlorate

Totals without ISTD(s) :                4.62428
```

BA 11/3

Signal 2: MSD1 85, EIC=84.7:85.7

RetTime [min]	Type	Area	Amt/Area ratio	Amount [ng/ml]	Grp	Name
12.249	BB	1234.28992	9.33554	14.49784		second ion

Totals without ISTD(s) : 14.49784

Signal 3: MSD1 89, EIC=88.7:89.7

RetTime [min]	Type	Area	Amt/Area ratio	Amount [ng/ml]	Grp	Name
12.400	BB +I	1589.58301	1.00000	2.00000		Internal STD

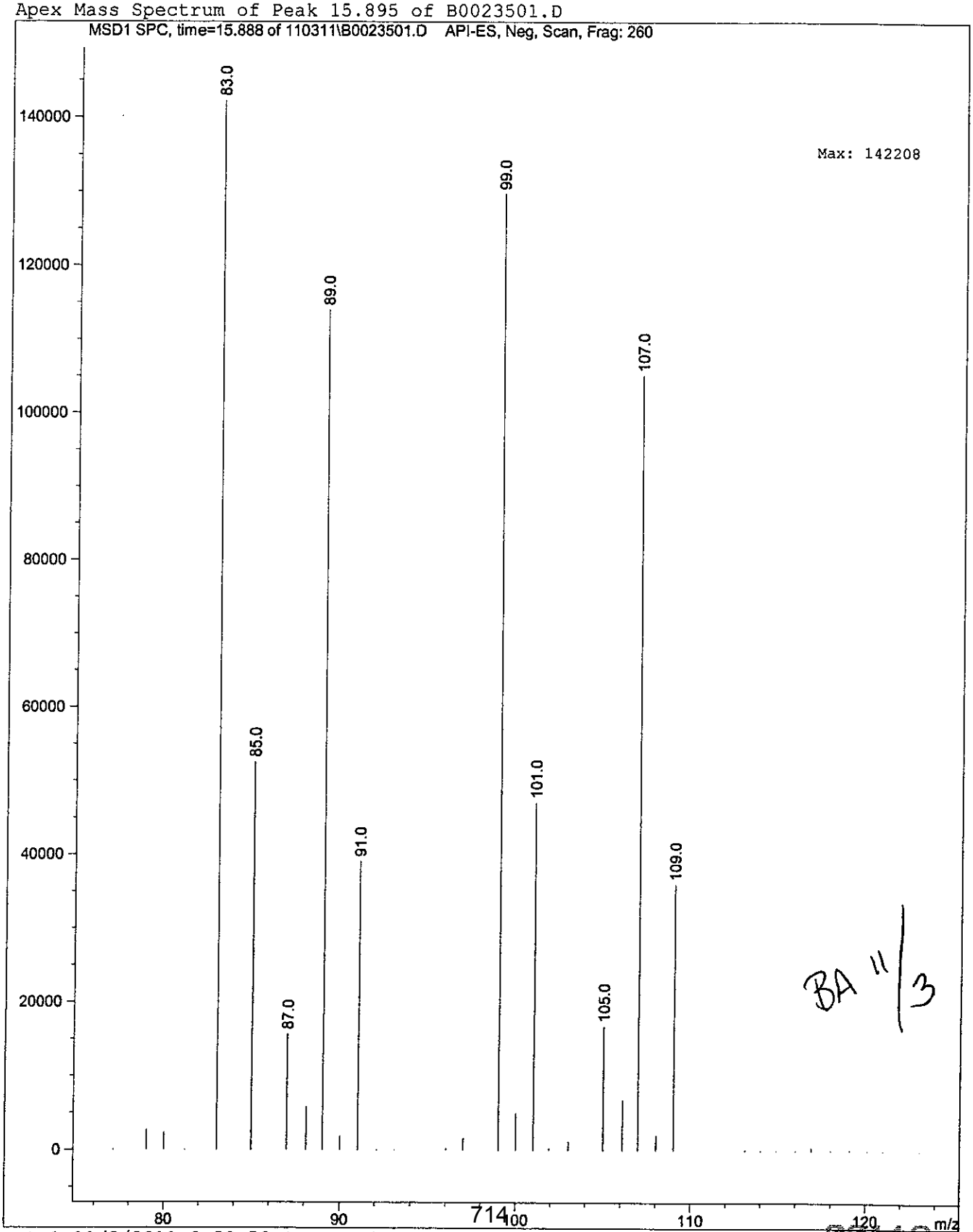
Totals without ISTD(s) : 0.00000

*** End of Report ***

Print of window 79: Apex Mass Spectrum of Peak 15.895 of B0023501.D

Injection Date : 11/3/2011 9:28:13 AM
Sample Name : ion/mass ccv Location : Vial 100
Acq. Operator : m.pedro Inj : 1
Acq. Instrument : Instrument 1 Inj Volume : 30 µl
Method : J:\ACQUDATA\HPLC02\METHODS\PERCTUNZ.M
Last changed : 11/3/2011 9:26:25 AM by m.pedro
SIM Perchlorate on K` column

Apex Mass Spectrum of Peak 15.895 of B0023501.D



BA 11/3

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023504.D Vial: 12
Acq On : 3 Nov 2011 10:54 am Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:52 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.11	89	183276	1.00	ug/L	-0.42
Target Compounds						Qvalue
2) Perchlorate	16.08	83	23459	0.10	ug/L	100
3) #2 perc ion	16.11	85	8854m	0.11	ug/L	

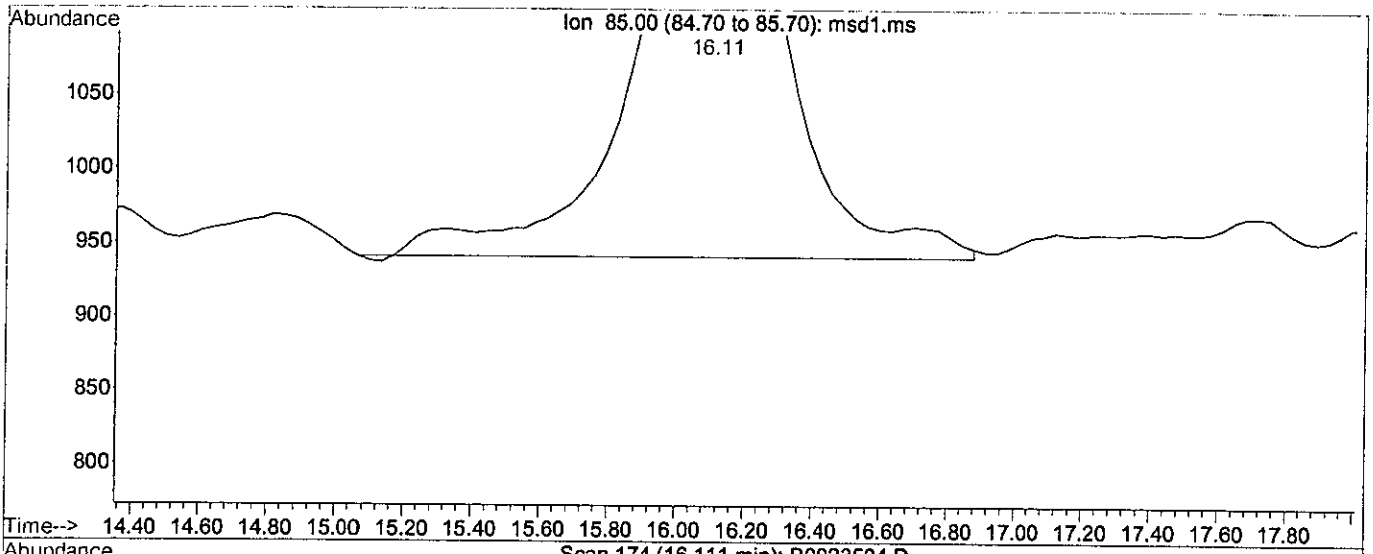
Ratio
2.65

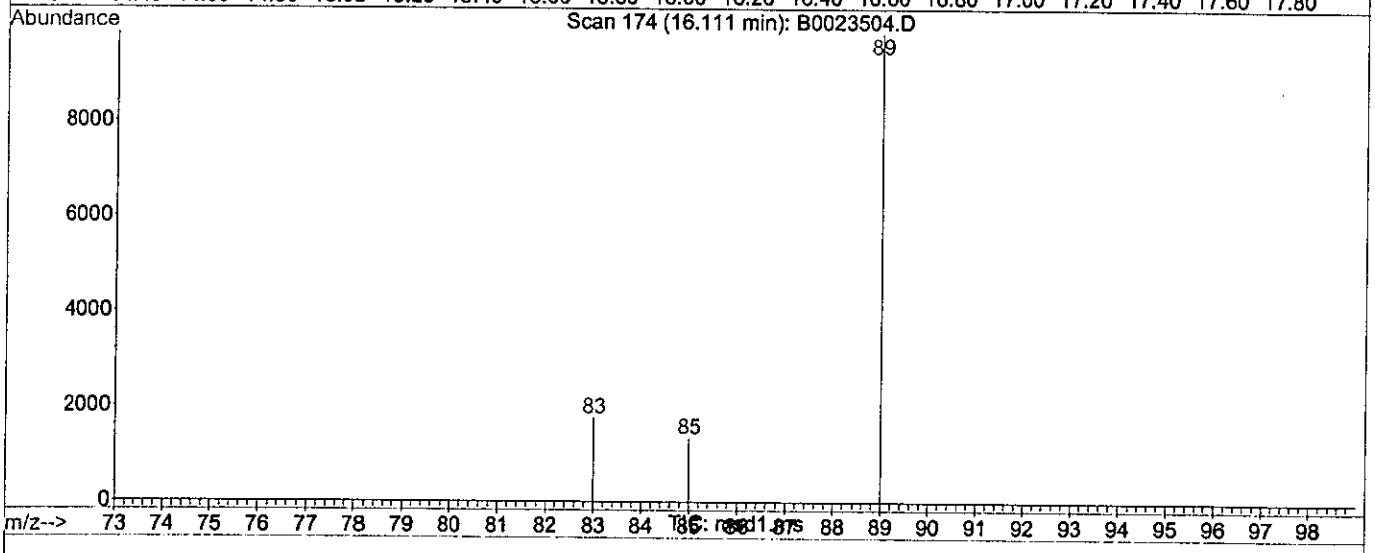
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023504.D PERC0829.M Thu Nov 03 13:52:55 2011

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023504.D Vial: 12
Acq On : 3 Nov 2011 10:54 am Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:47 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(3) #2 perc ion

16.11min 0.13ug/L

response 10388

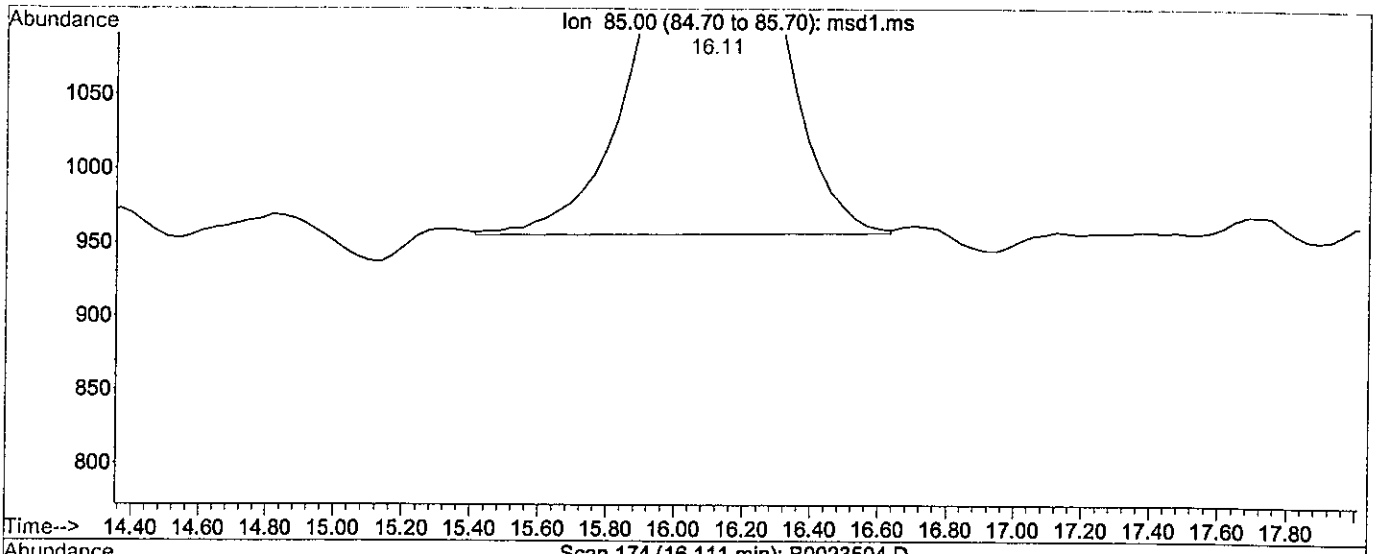
Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

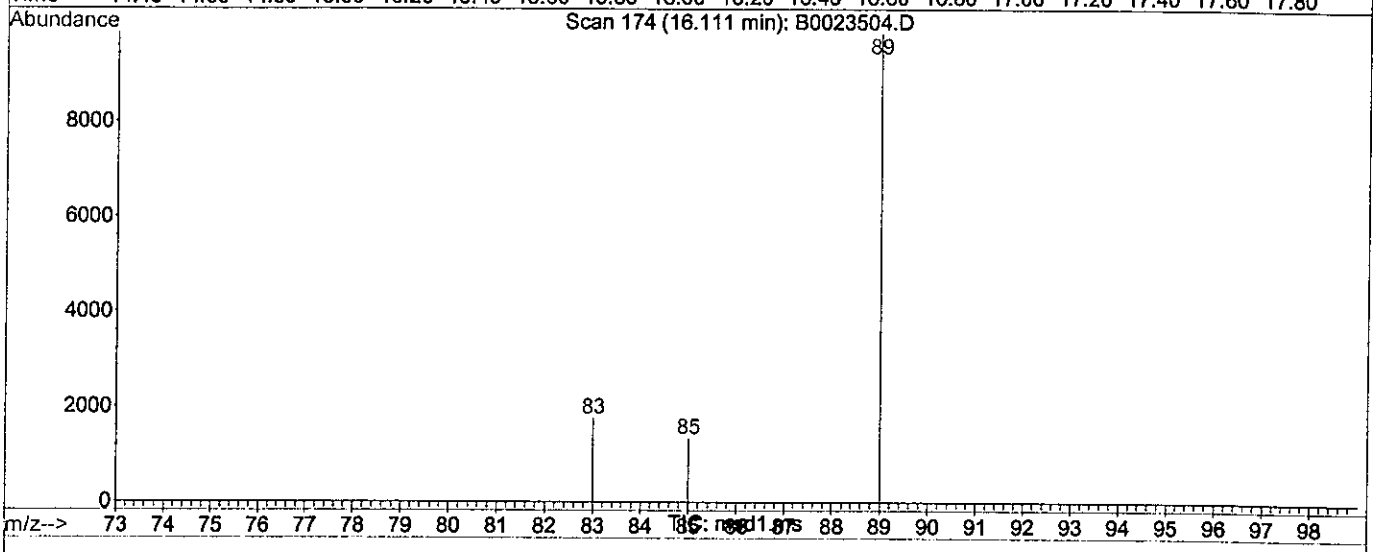
B

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023504.D Vial: 12
Acq On : 3 Nov 2011 10:54 am Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:52 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(3) #2 perc ion

16.11min 0.11ug/L m

response 8854

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

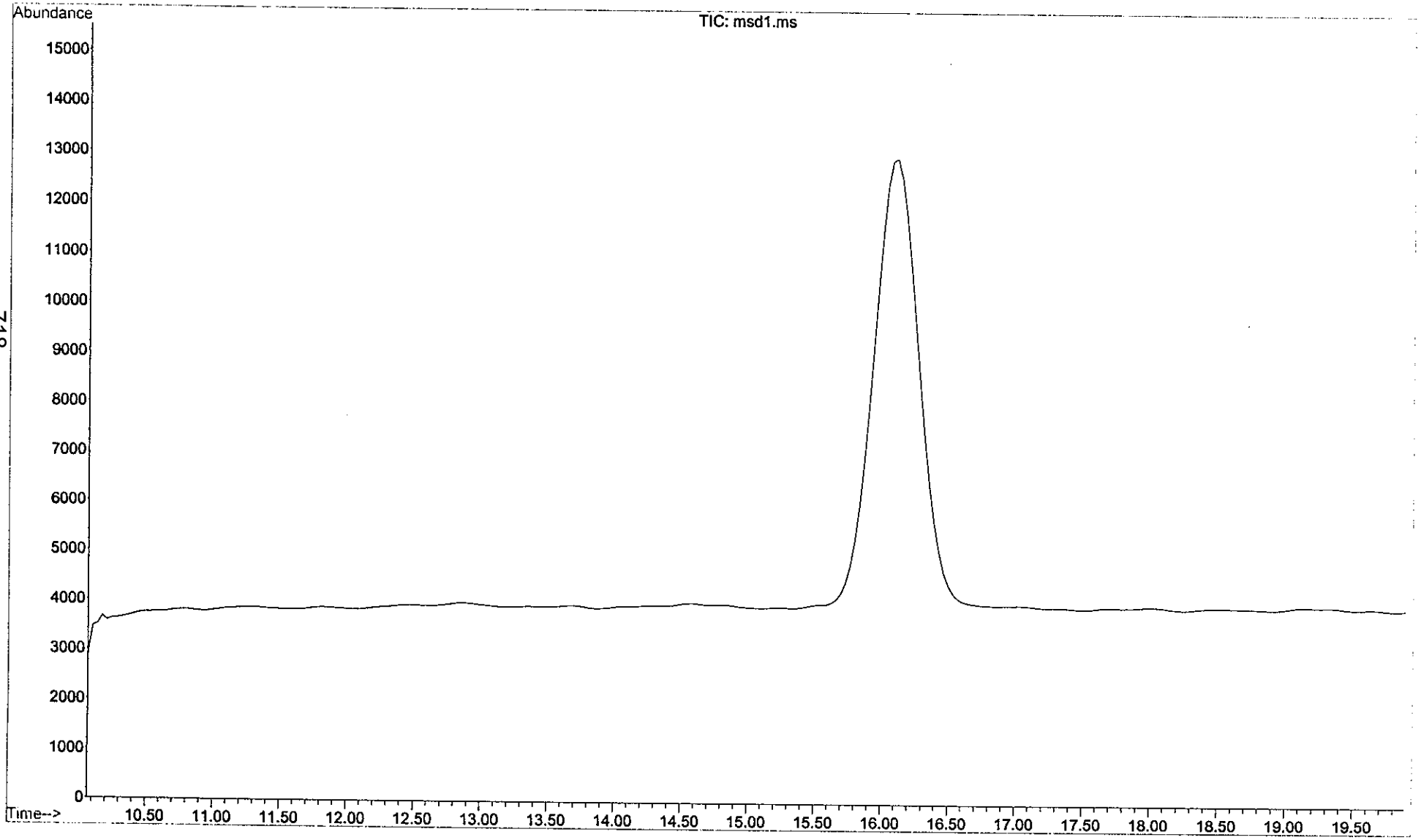
A
BA 11/3
(BAD DJT)

MW 11/4

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023504.D Vial: 12
Acq On : 3 Nov 2011 10:54 am Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:52 2011 Quant Results File: PERC0829.RES

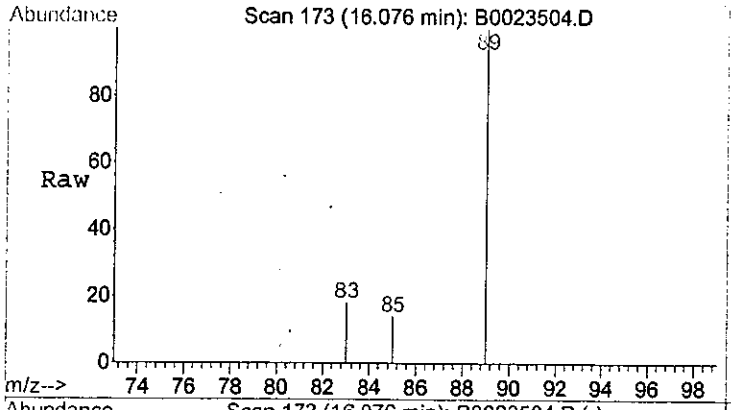
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



718

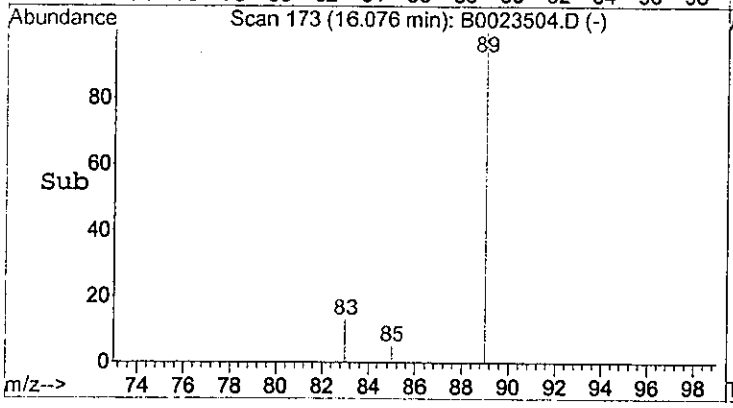
00116

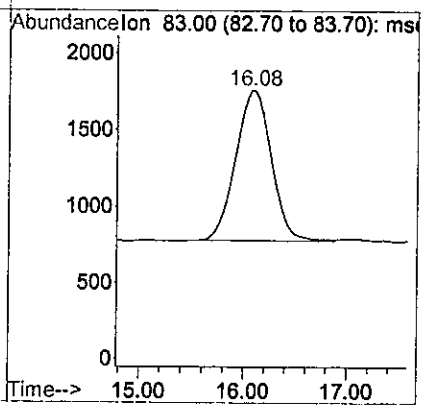
B0023504.D PERC0829.M Thu Nov 03 13:52:56 2011

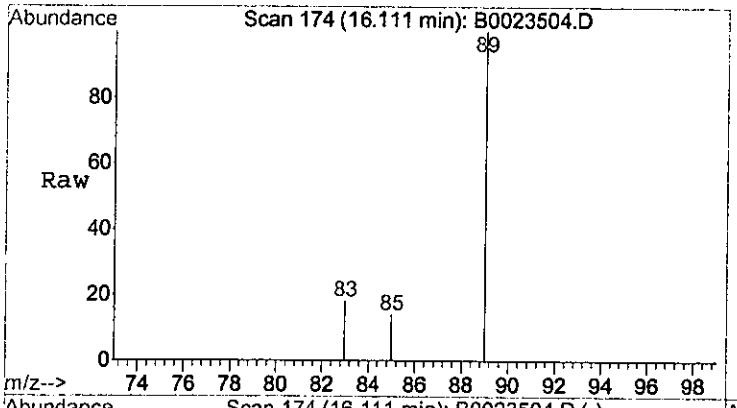


#2
Perchlorate
Concen: 0.10 ug/L
RT: 16.08 min Scan# 173
Delta R.T. -0.45 min
Lab File: B0023504.D
Acq: 3 Nov 2011 10:54 am

Tgt Ion: 83 Resp: 23459

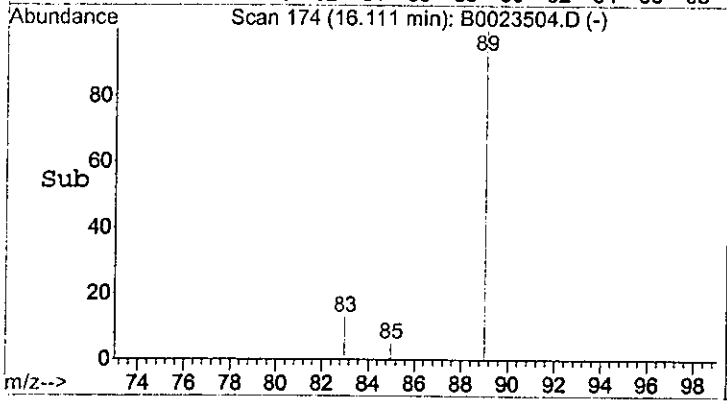


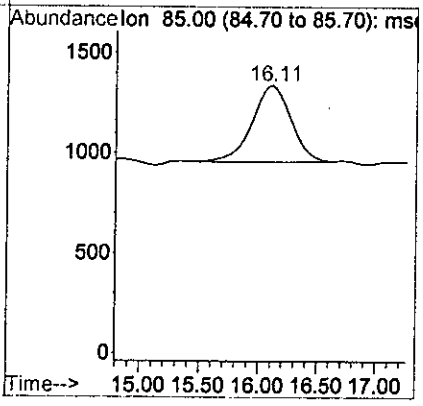




#3
#2 perc ion
Concen: 0.11 ug/L m
RT: 16.11 min Scan# 174
Delta R.T. -0.42 min
Lab File: B0023504.D
Acq: 3 Nov 2011 10:54 am

Tgt Ion: 85 Resp: 8854





Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023504.D Vial: 12
Acq On : 3 Nov 2011 10:54 am Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:47 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.11	89	183276	1.00	ug/L	-0.42
Target Compounds						Qvalue
2) Perchlorate	16.08	83	23459	0.10	ug/L	100
3) #2 perc ion	16.11	85	10388	0.13	ug/L	100

Ratio
2.26

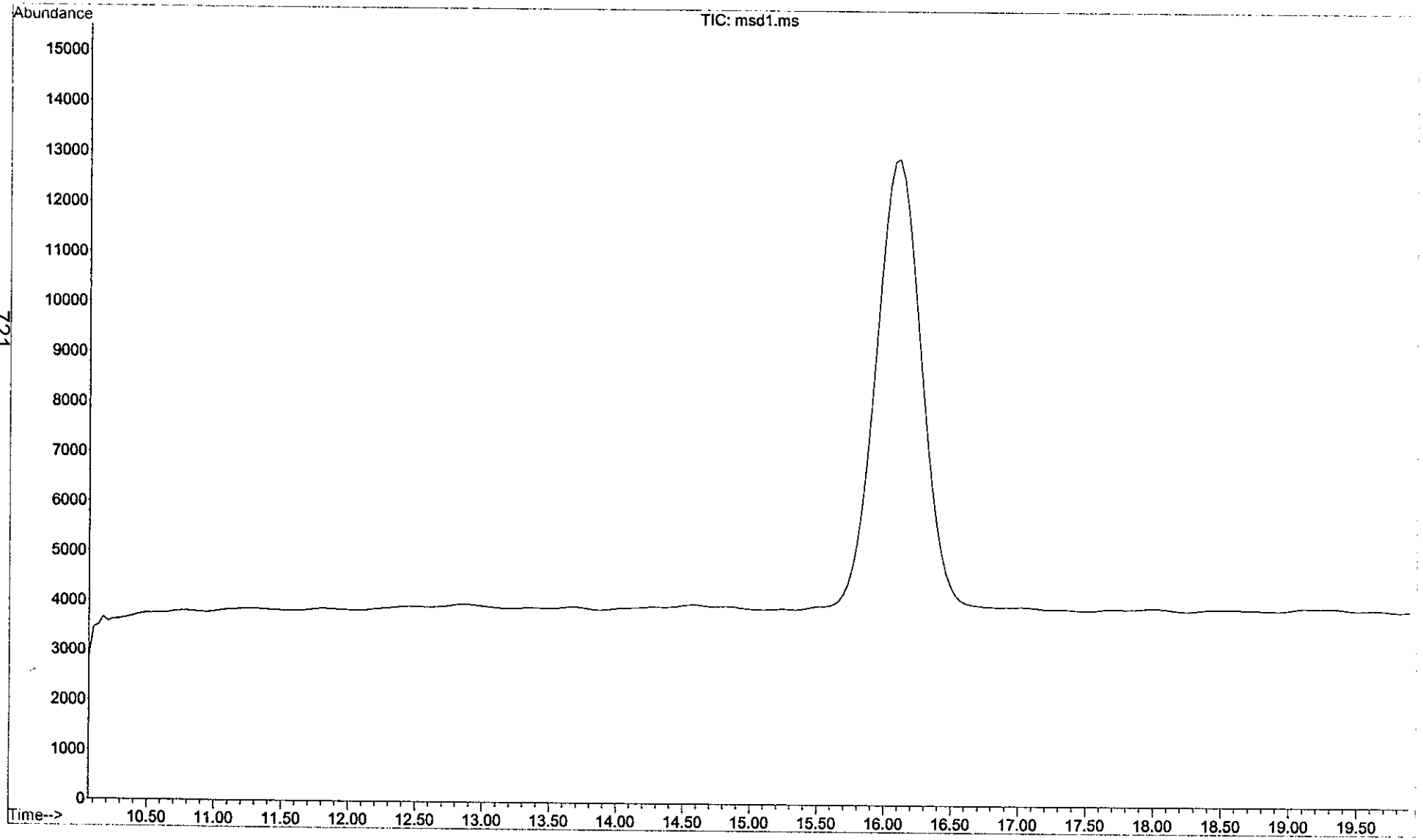
ORIGINAL

(#) = qualifier out of range (m) = manual integration
B0023504.D PERC0829.M Thu Nov 03 13:47:59 2011

Quantitation Report

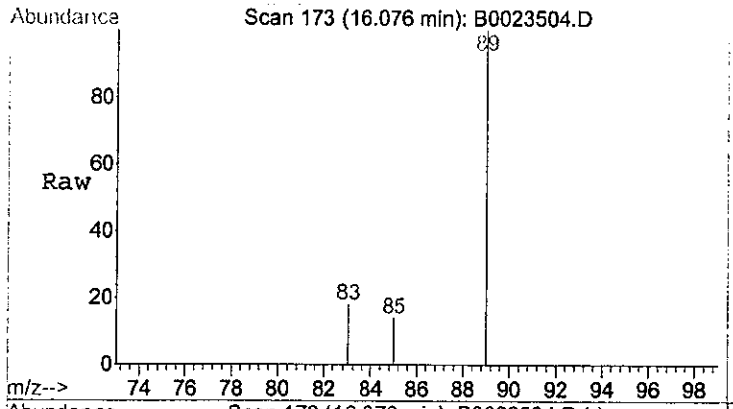
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023504.D Vial: 12
Acq On : 3 Nov 2011 10:54 am Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:47 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



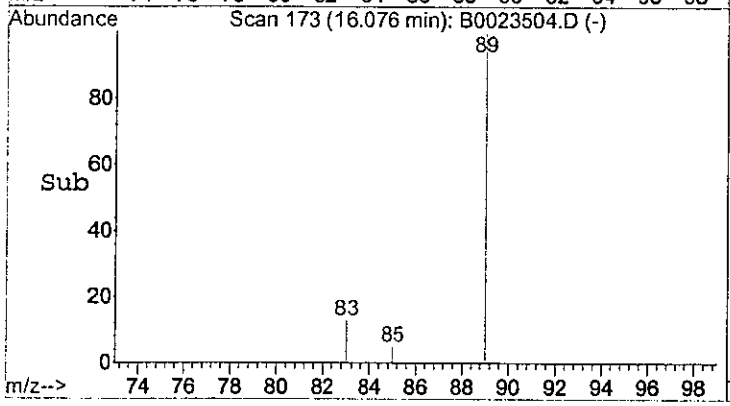
721

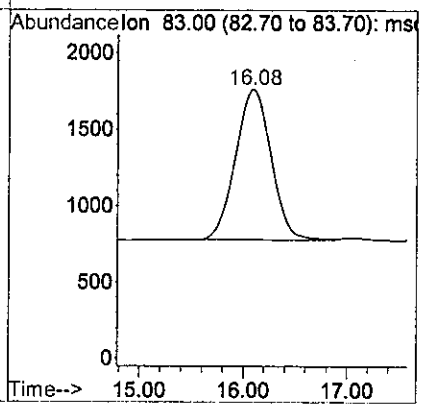
60119

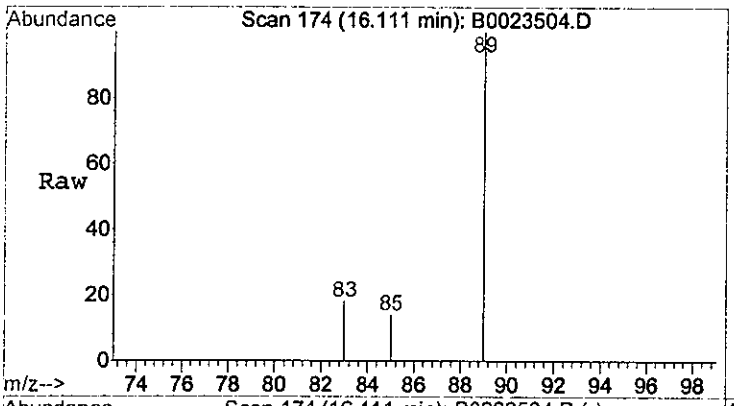


#2
Perchlorate
Concen: 0.10 ug/L
RT: 16.08 min Scan# 173
Delta R.T. -0.45 min
Lab File: B0023504.D
Acq: 3 Nov 2011 10:54 am

Tgt Ion: 83 Resp: 23459

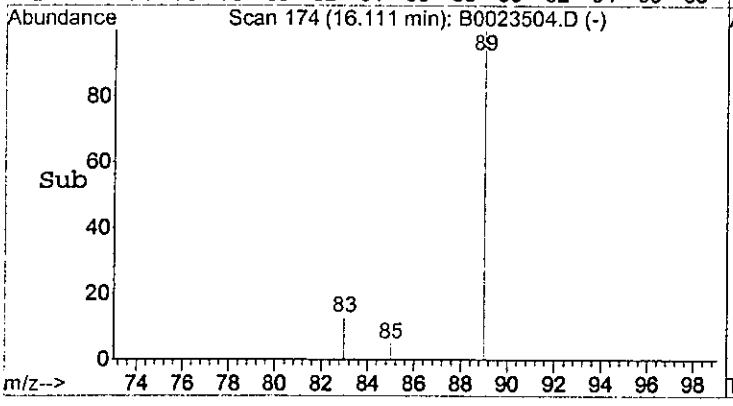


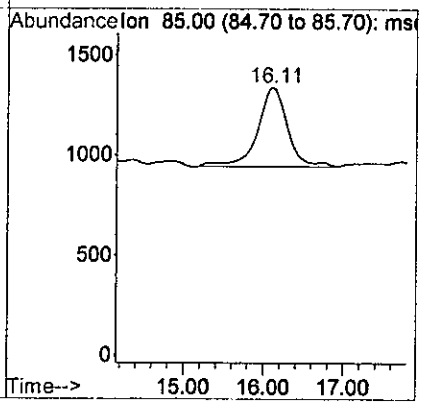




#3
#2 perc ion
Concen: 0.13 ug/L
RT: 16.11 min Scan# 174
Delta R.T. -0.42 min
Lab File: B0023504.D
Acq: 3 Nov 2011 10:54 am

Tgt Ion: 85 Resp: 10388





Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023517.D Vial: 12
Acq On : 3 Nov 2011 3:35 pm Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 15:56 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.01	89	178355	1.00	ug/L	-0.52
Target Compounds						Qvalue
2) Perchlorate	16.01	83	22361	0.10	ug/L	100
3) #2 perc ion	16.01	85	9497	0.12	ug/L	100

Ratio
2.35

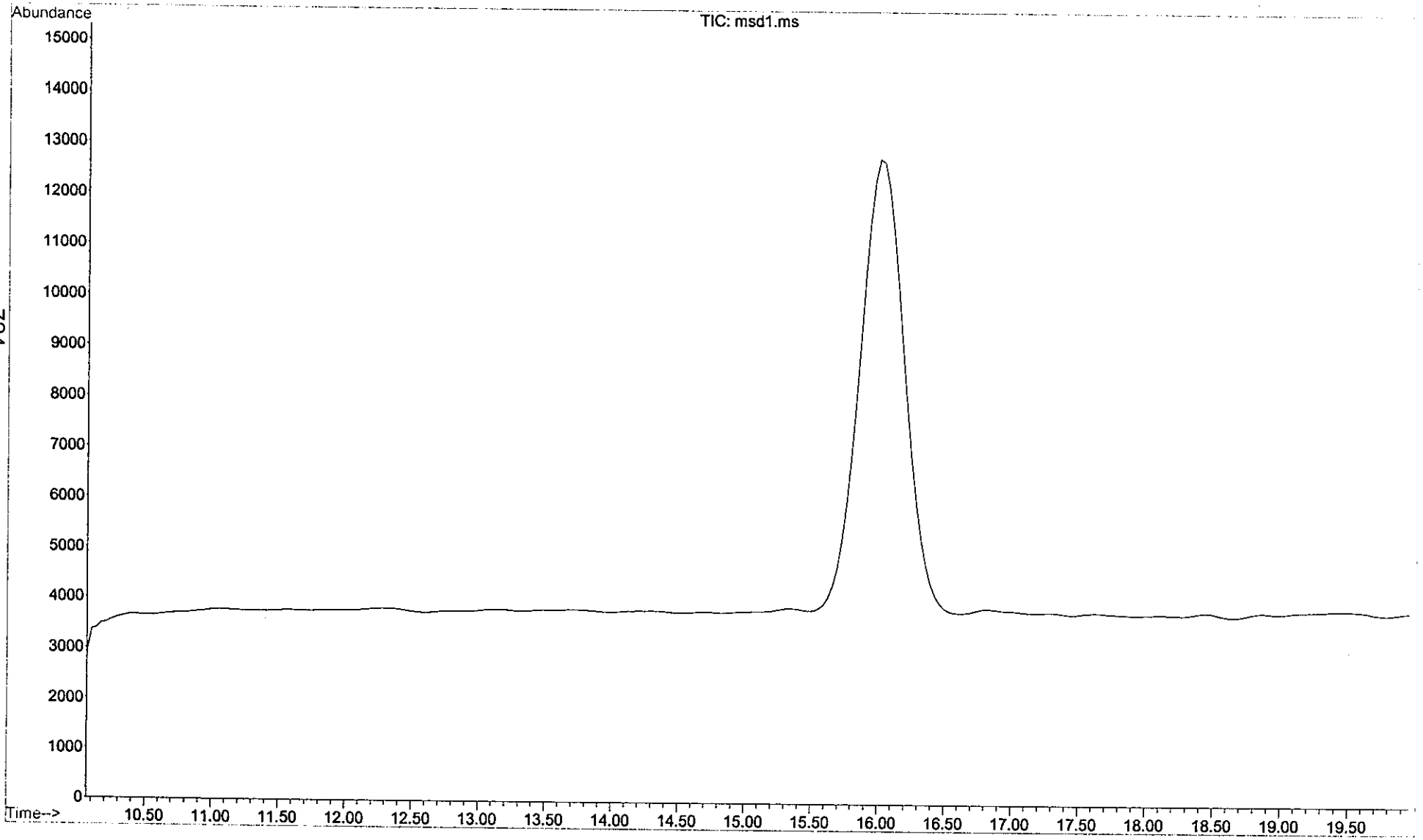
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023517.D PERC0829.M Thu Nov 03 15:56:37 2011

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023517.D Vial: 12
Acq On : 3 Nov 2011 3:35 pm Operator: m.pedro
Sample : rq1111082-04 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 15:56 2011 Quant Results File: PERC0829.RES

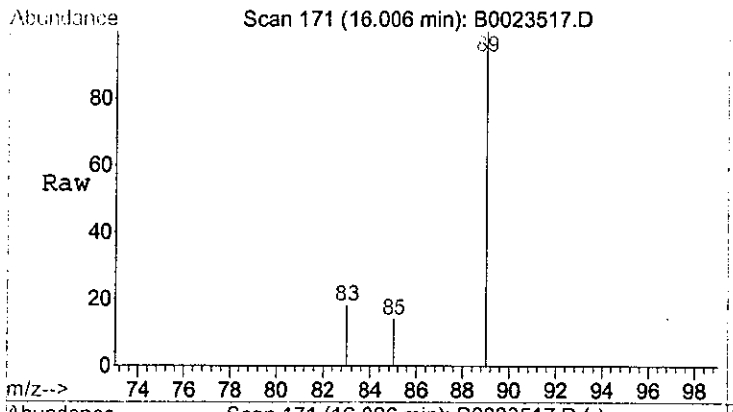
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



724

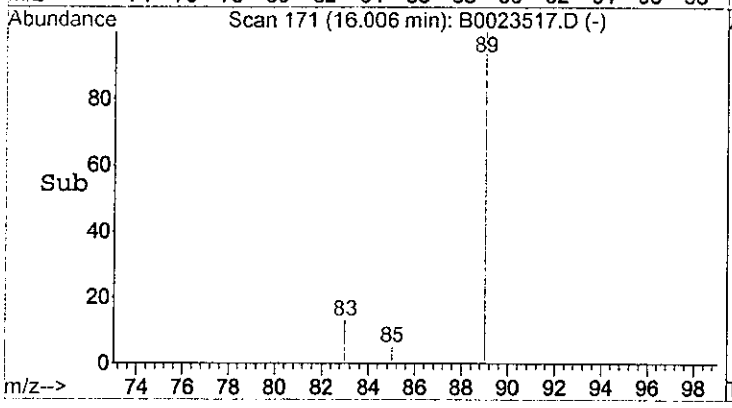
00122

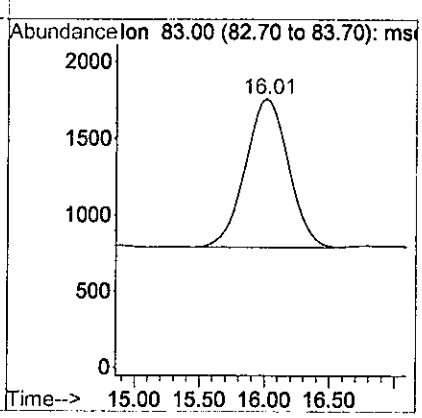
B0023517.D PERC0829.M Thu Nov 03 15:56:39 2011

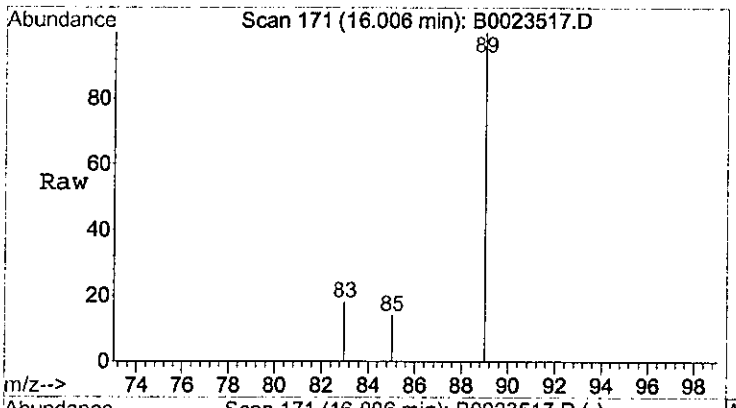


#2
Perchlorate
Concen: 0.10 ug/L
RT: 16.01 min Scan# 171
Delta R.T. -0.52 min
Lab File: B0023517.D
Acq: 3 Nov 2011 3:35 pm

Tgt Ion: 83 Resp: 22361

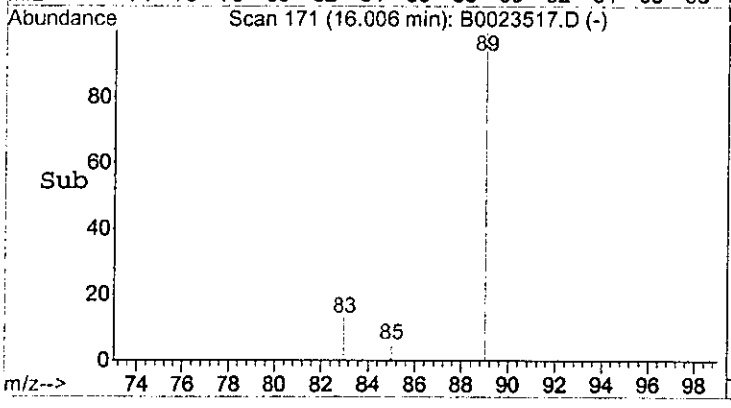


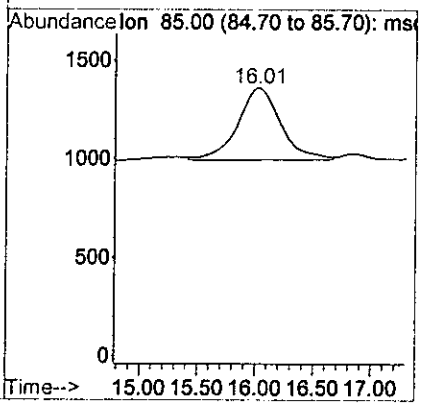




#3
#2 perc ion
Concen: 0.12 ug/L
RT: 16.01 min Scan# 171
Delta R.T. -0.52 min
Lab File: B0023517.D
Acq: 3 Nov 2011 3:35 pm

Tgt Ion: 85 Resp: 9497





Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:55 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	15.24	89	164775m	1.00	ug/L	-1.29
Target Compounds						Qvalue
2) Perchlorate	15.24	83	39463m	0.19	ug/L	
3) #2 perc ion	15.24	85	13843m	0.20	ug/L	

Ratio
2.85

BA 11/3

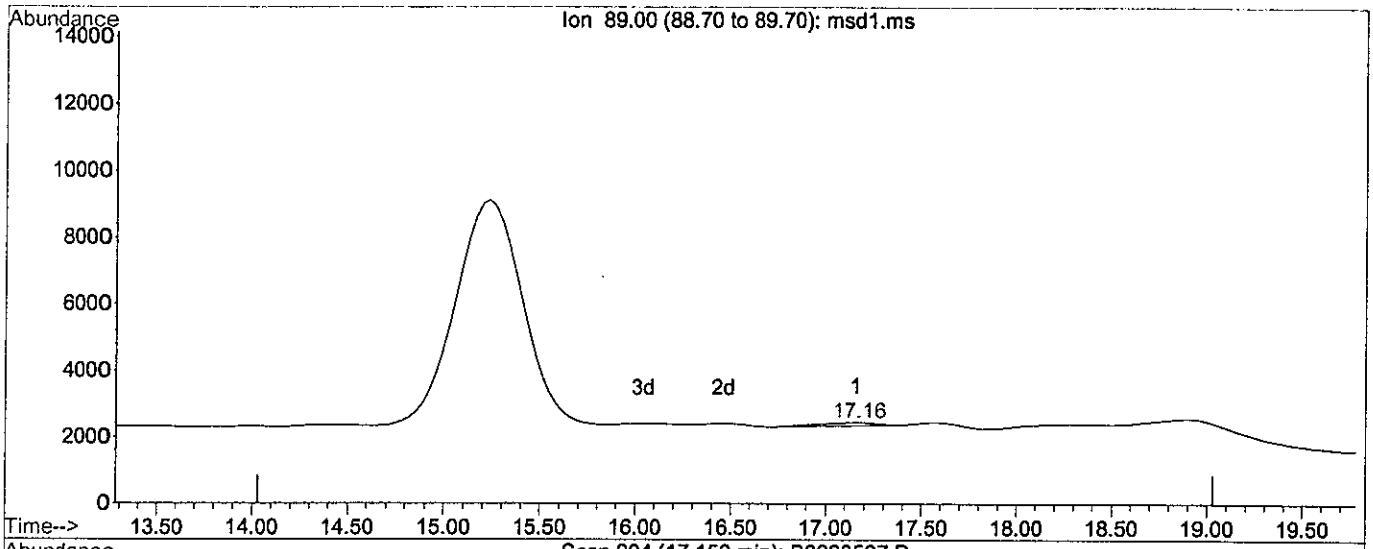
(#) = qualifier out of range (m) = manual integration
B0023507.D PERC0829.M Thu Nov 03 13:55:26 2011

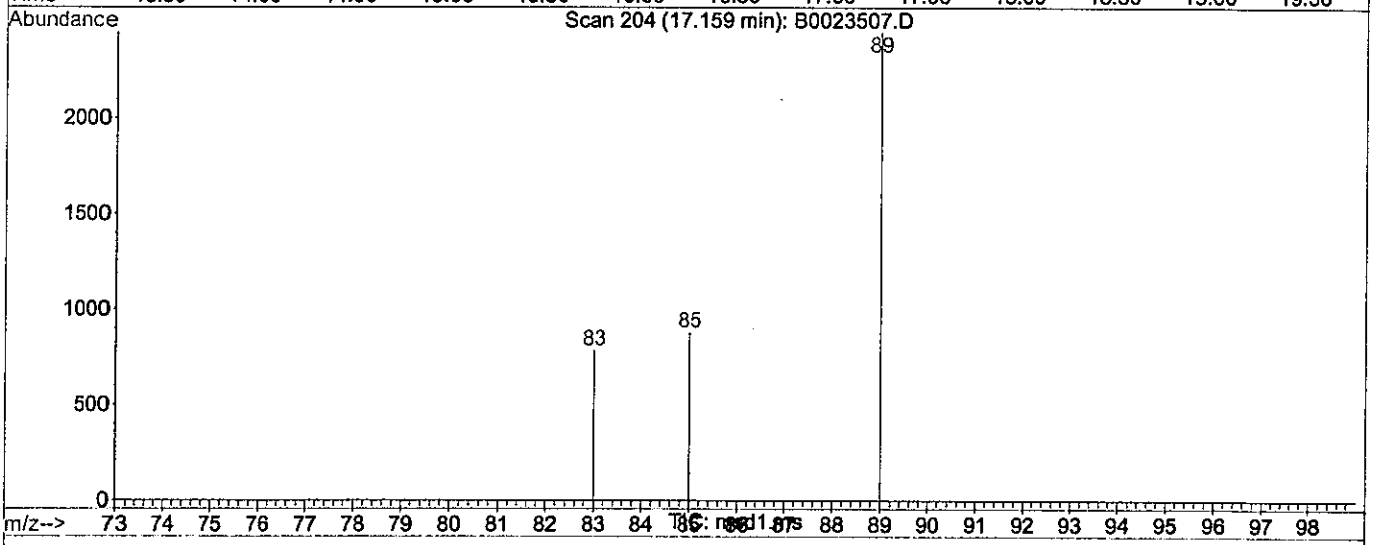
00124

Quantitation Report (Quan)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:48 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(1) O18LP

17.16min 1.00ug/L

response 2058

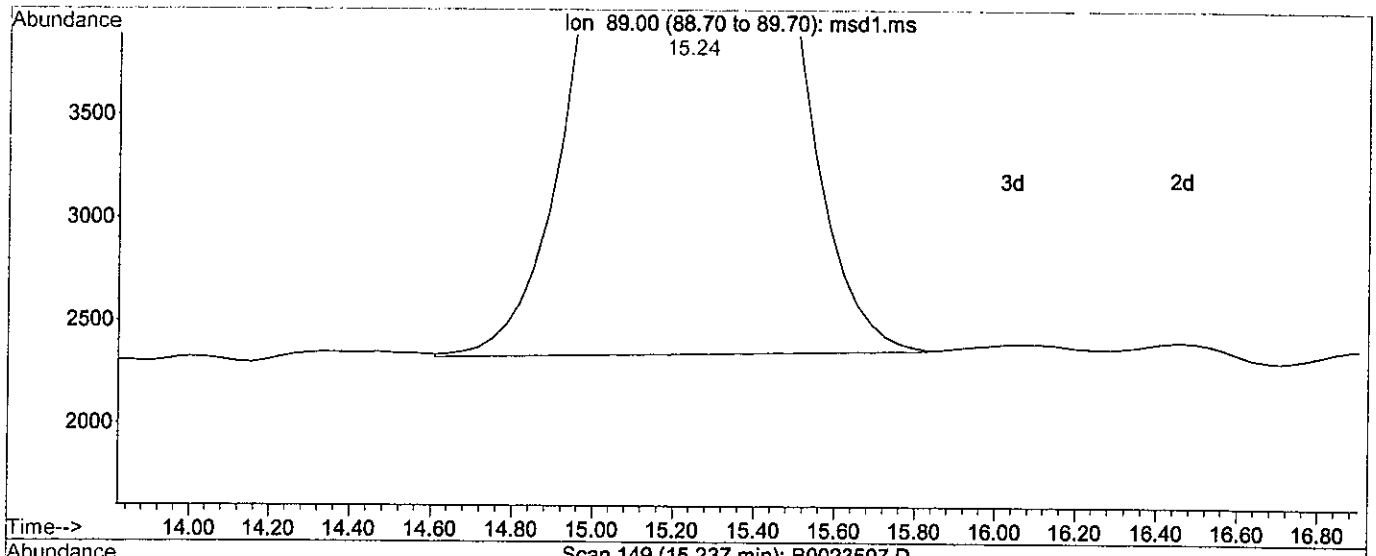
Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

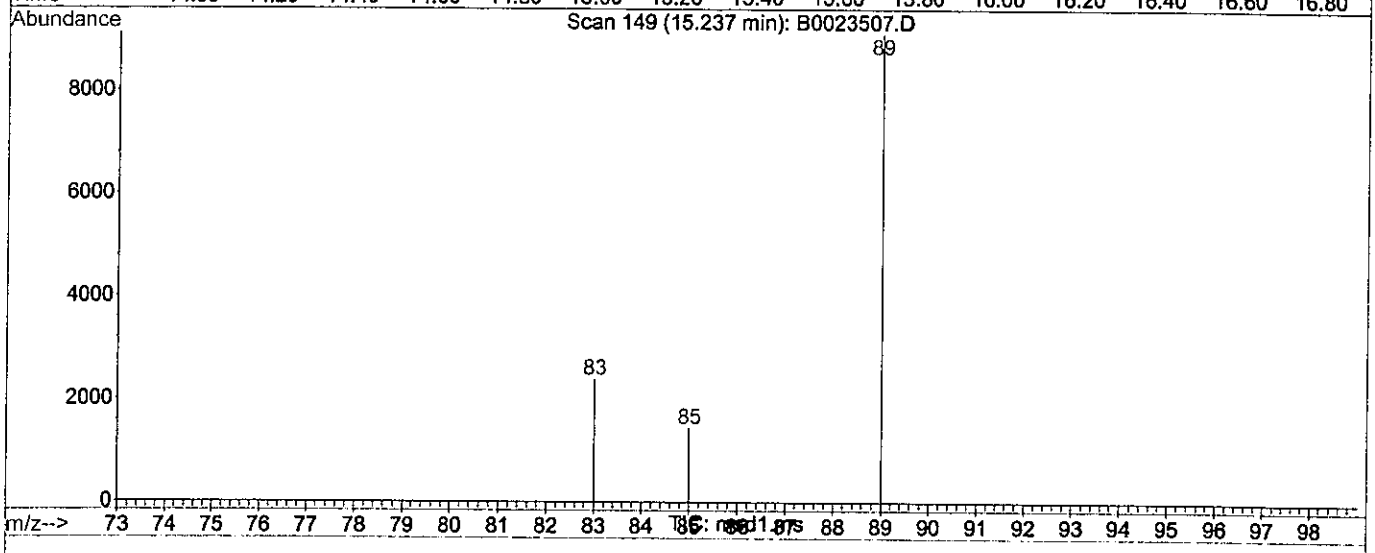
B

Quantitation Report (QedIt)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:55 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(1) O18LP

15.24min 1.00ug/L m

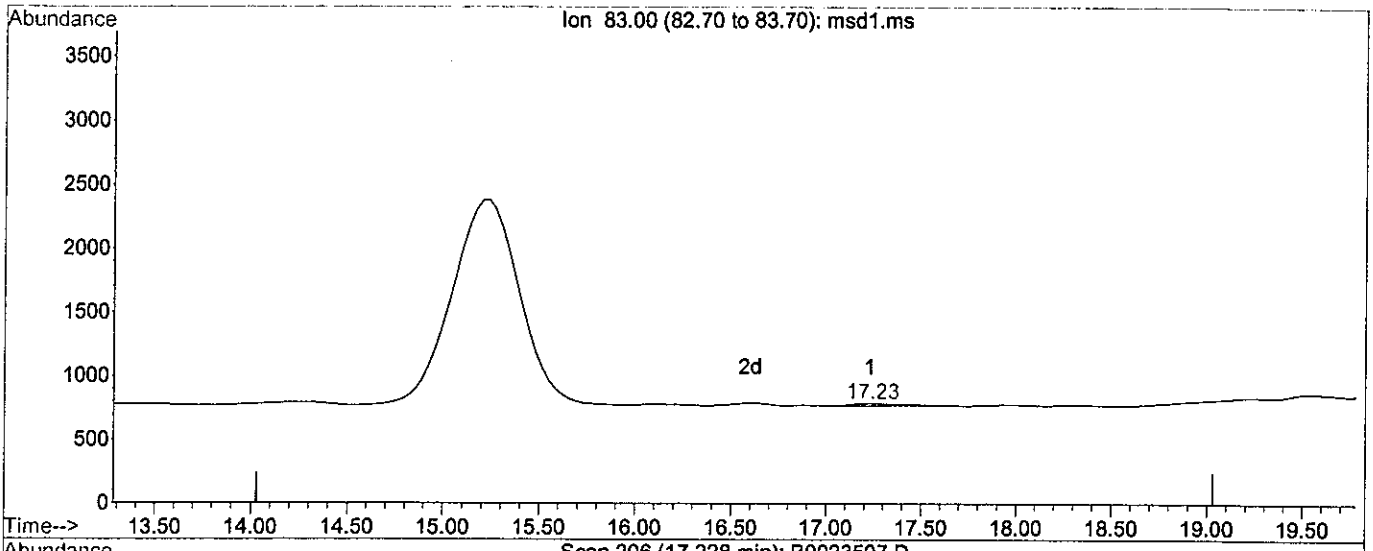
response 164775

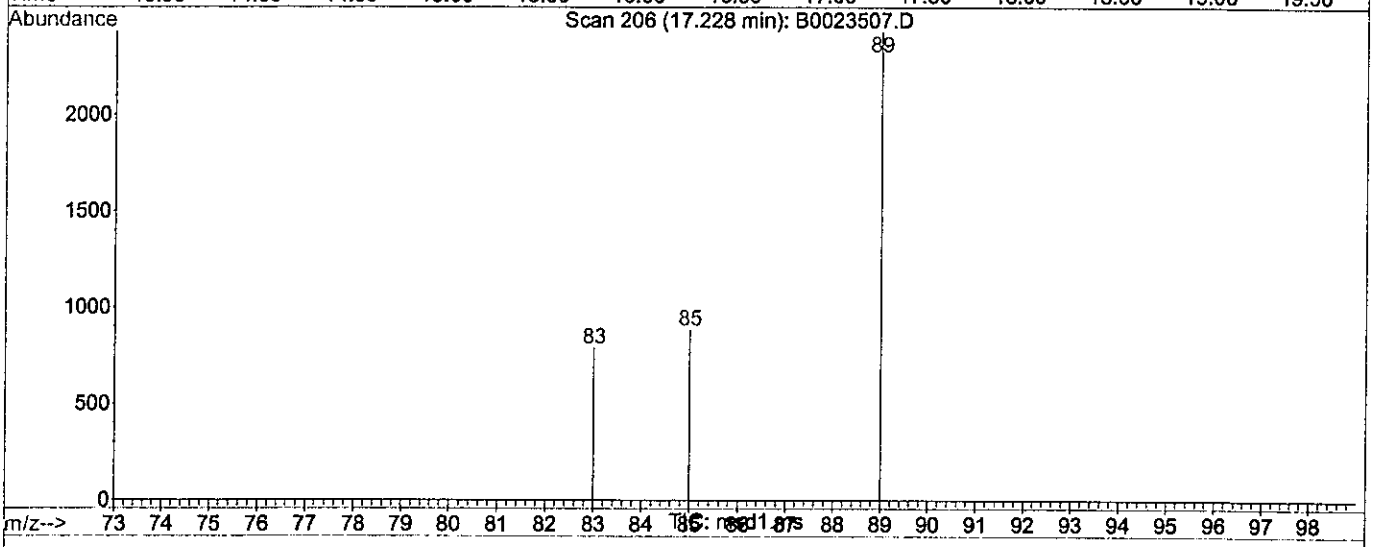
Ion	Exp%	Act%
89.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

D
BA 11/3
(BAD QC)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:55 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(2) Perchlorate

17.23min 0.00ug/L

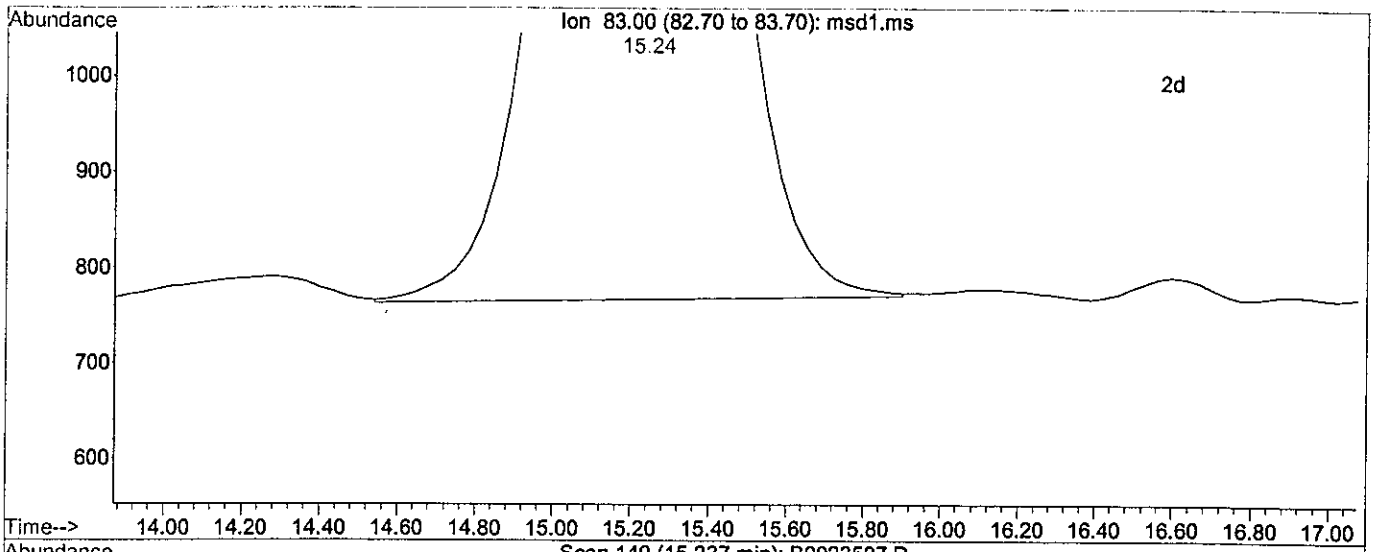
response 384

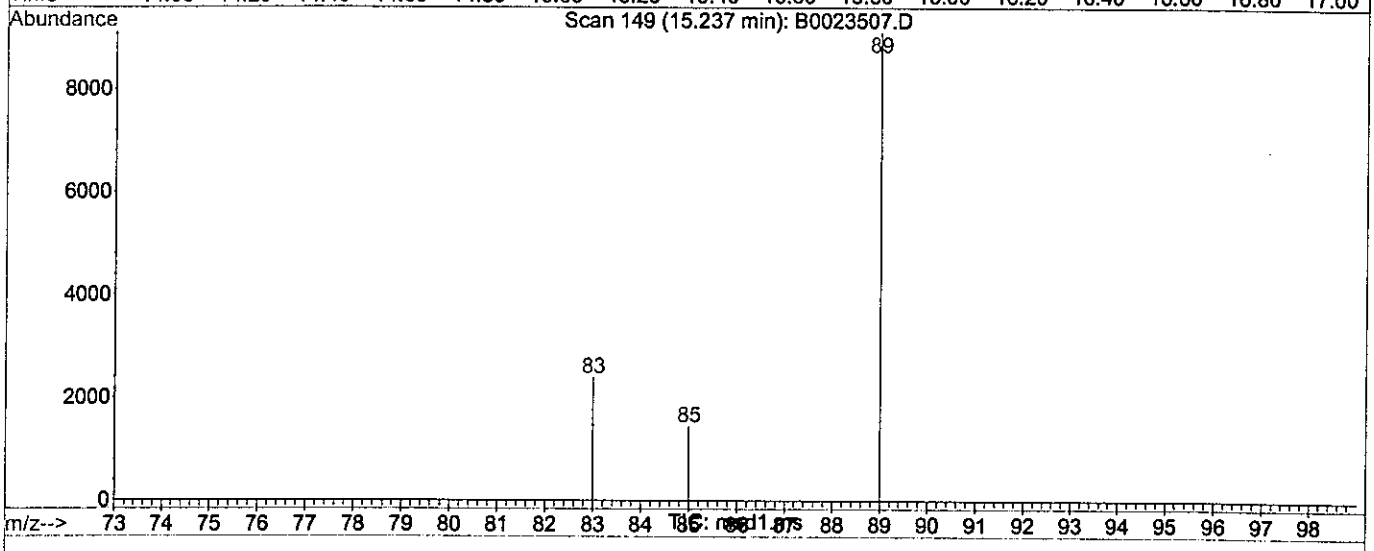
Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:55 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(2) Perchlorate

15.24min 0.19ug/L m

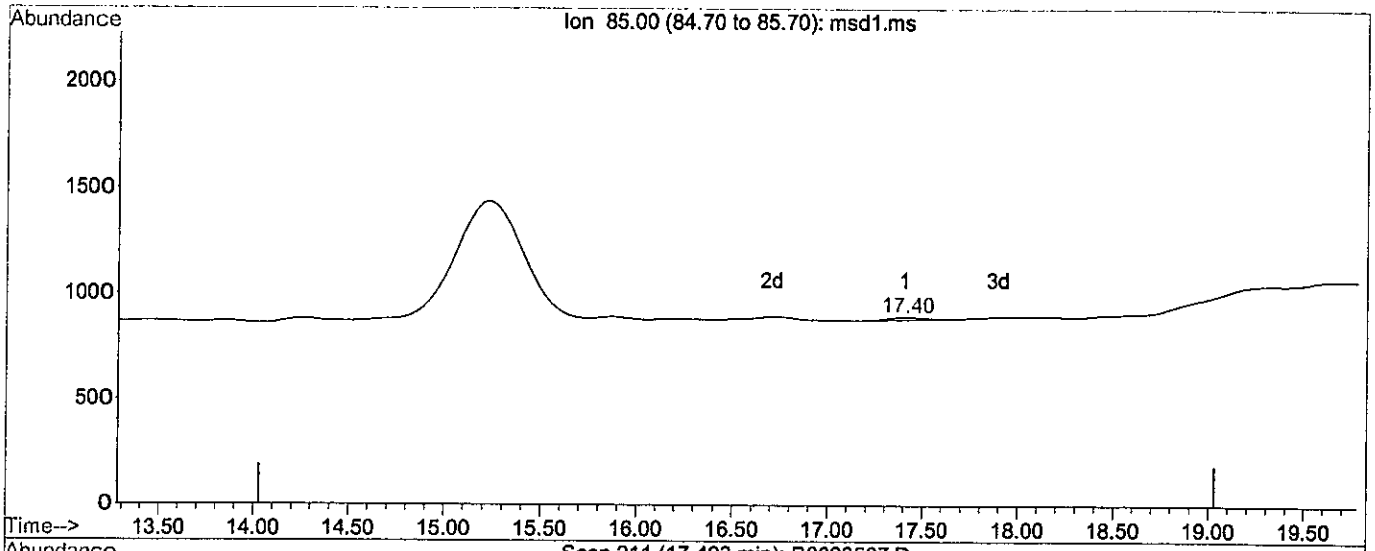
response 39463

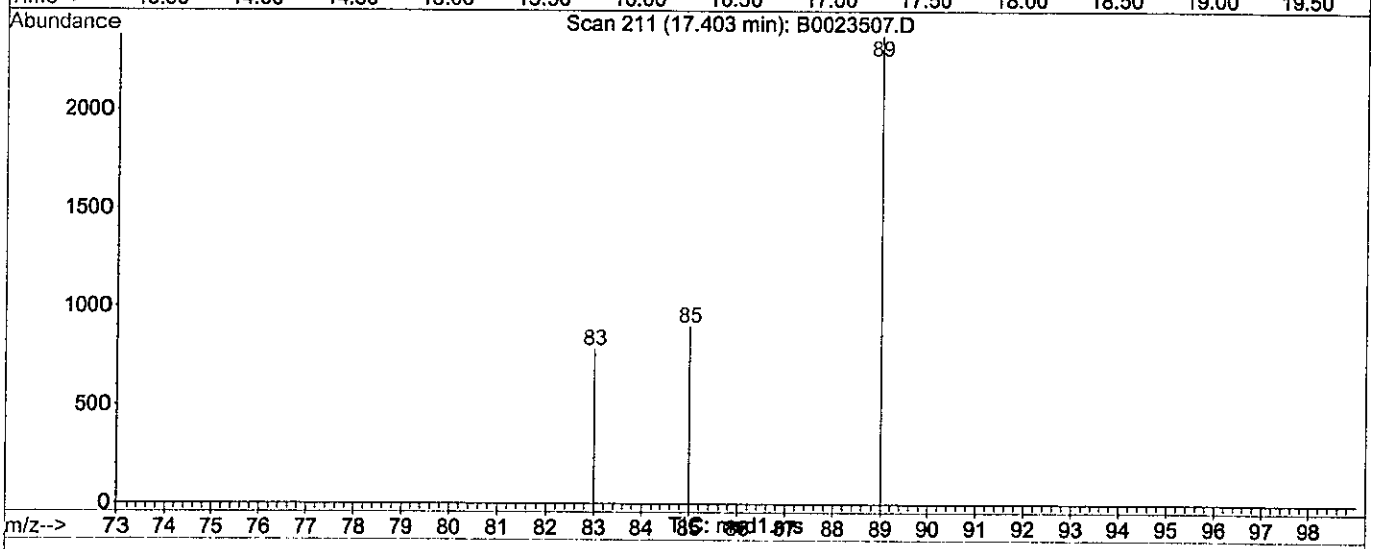
Ion	Exp%	Act%
83.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

A 11/3
BA

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:55 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(3) #2 perc ion

17.40min 0.00ug/L

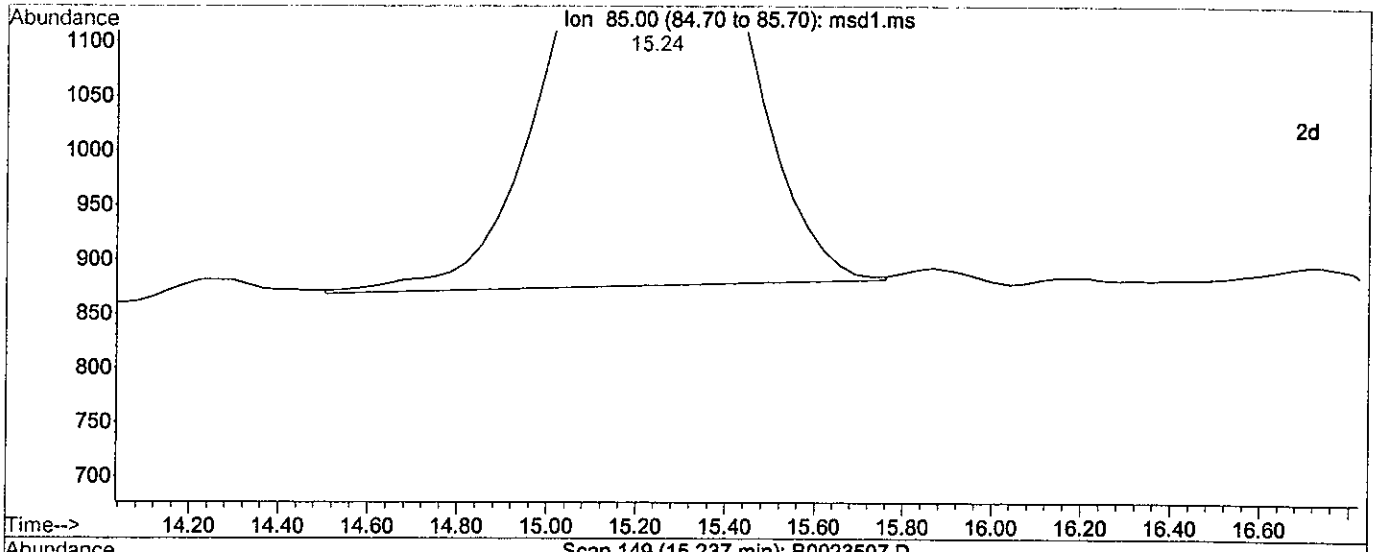
response 182

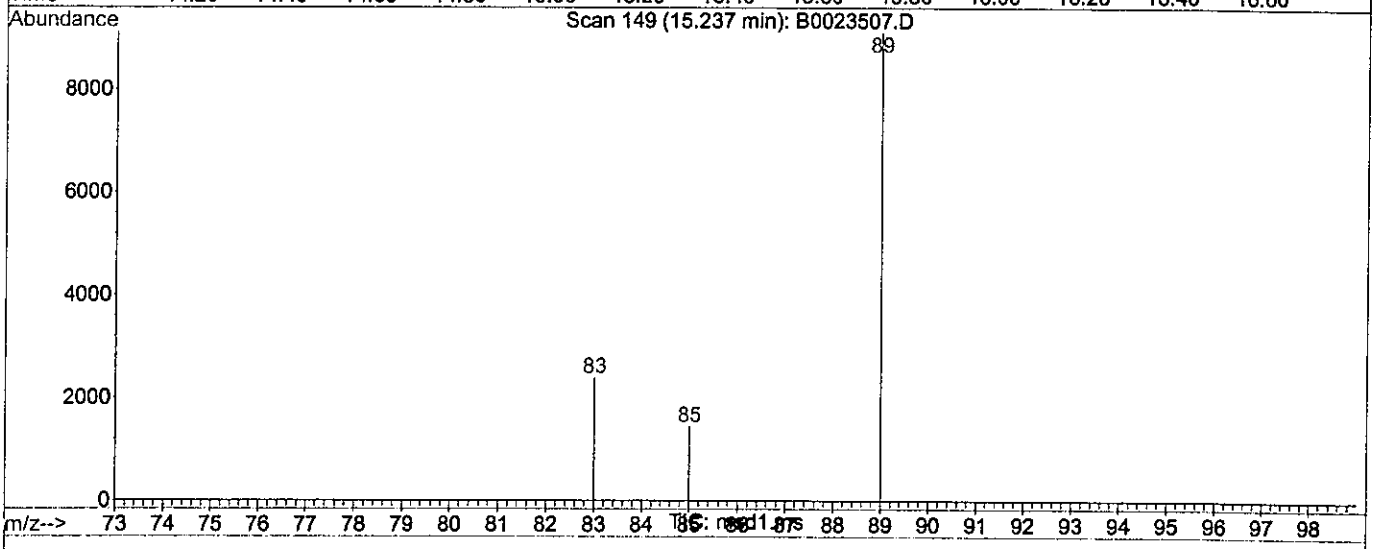
Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:55 2011 Quant Results File: temp.res

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Multiple Level Calibration





(3) #2 perc ion

15.24min 0.20ug/L m

response 13843

Ion	Exp%	Act%
85.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

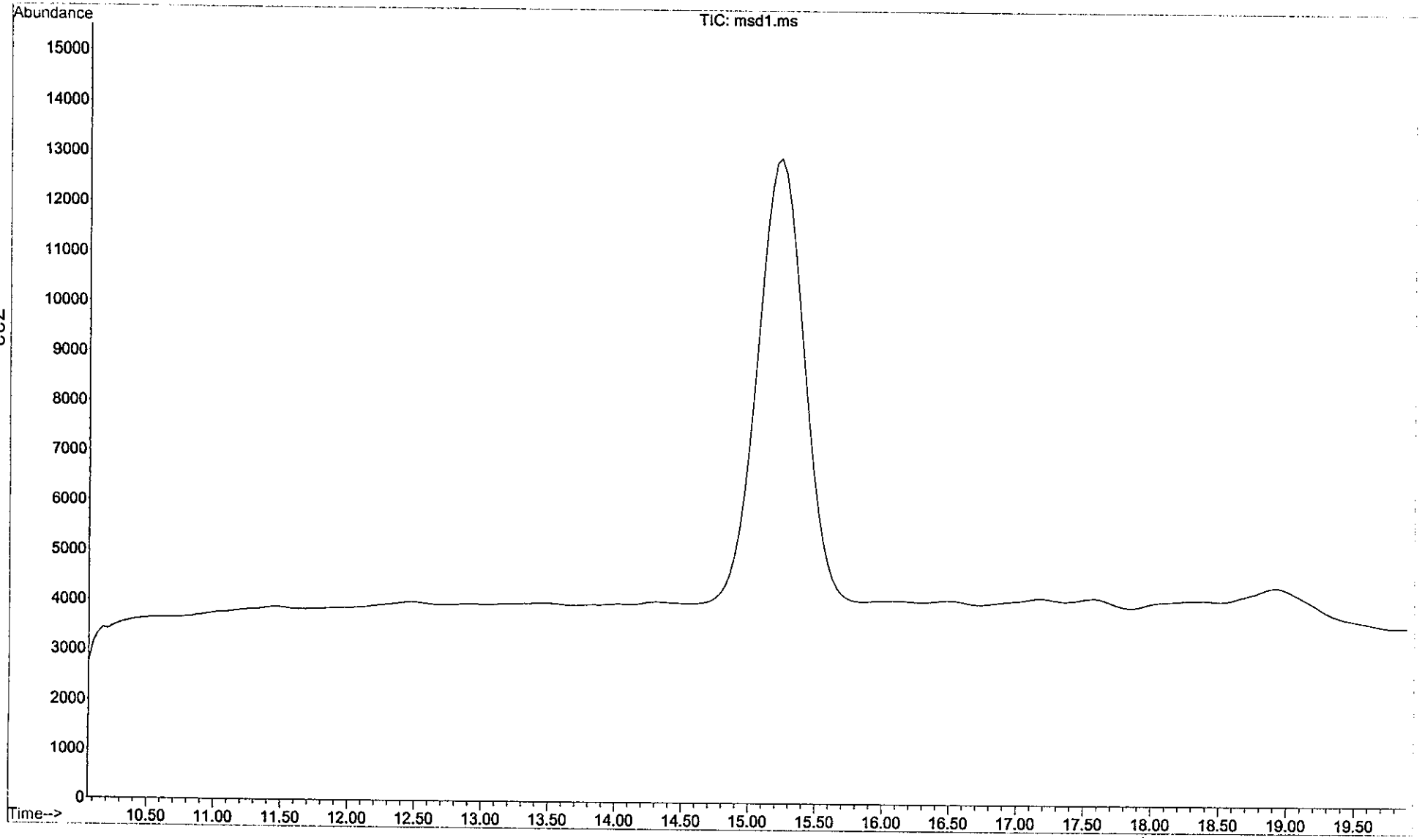
A
BA 11/3
(BAD QNT)

MW 11/4

Quantitation Report

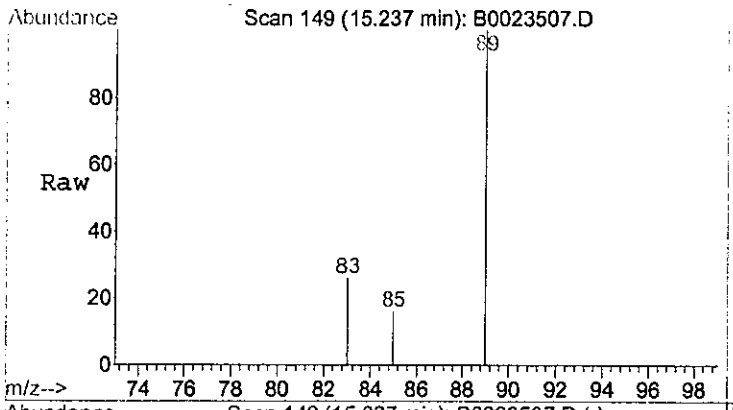
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:55 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



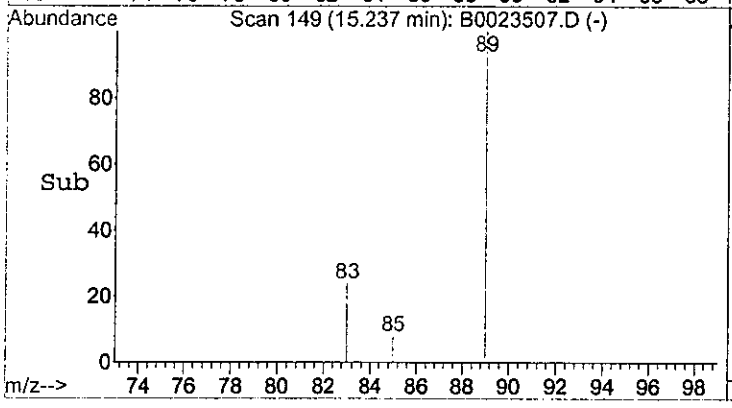
733

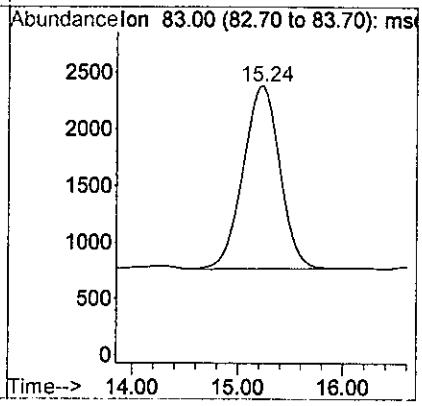
001231

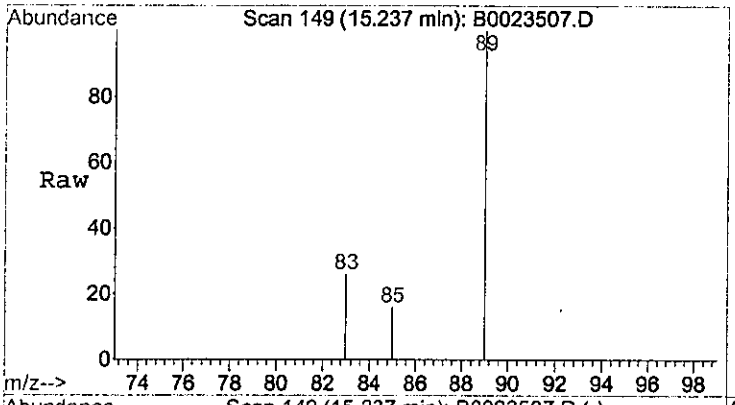


#2
Perchlorate
Concen: 0.19 ug/L m
RT: 15.24 min Scan# 149
Delta R.T. -1.29 min
Lab File: B0023507.D
Acq: 3 Nov 2011 11:59 am

Tgt Ion: 83 Resp: 39463

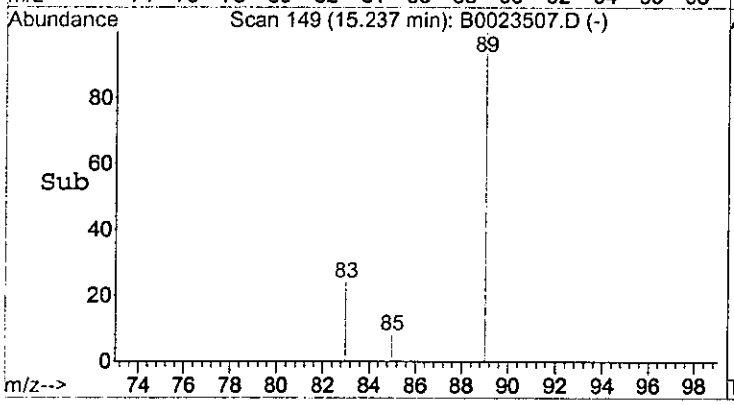


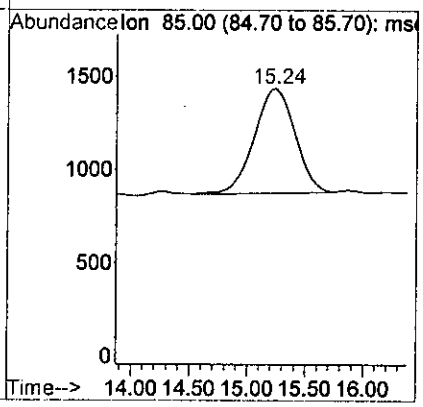




#3
#2 perc ion
Concen: 0.20 ug/L m
RT: 15.24 min Scan# 149
Delta R.T. -1.29 min
Lab File: B0023507.D
Acq: 3 Nov 2011 11:59 am

Tgt Ion: 85 Resp: 13843





Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:48 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	17.16	89	2058	1.00	ug/L	0.63
Target Compounds						Qvalue
2) Perchlorate	17.23	83	384	0.15	ug/L	100
3) #2 perc ion	17.40	85	182	0.21	ug/L	100

Ratio
2.11

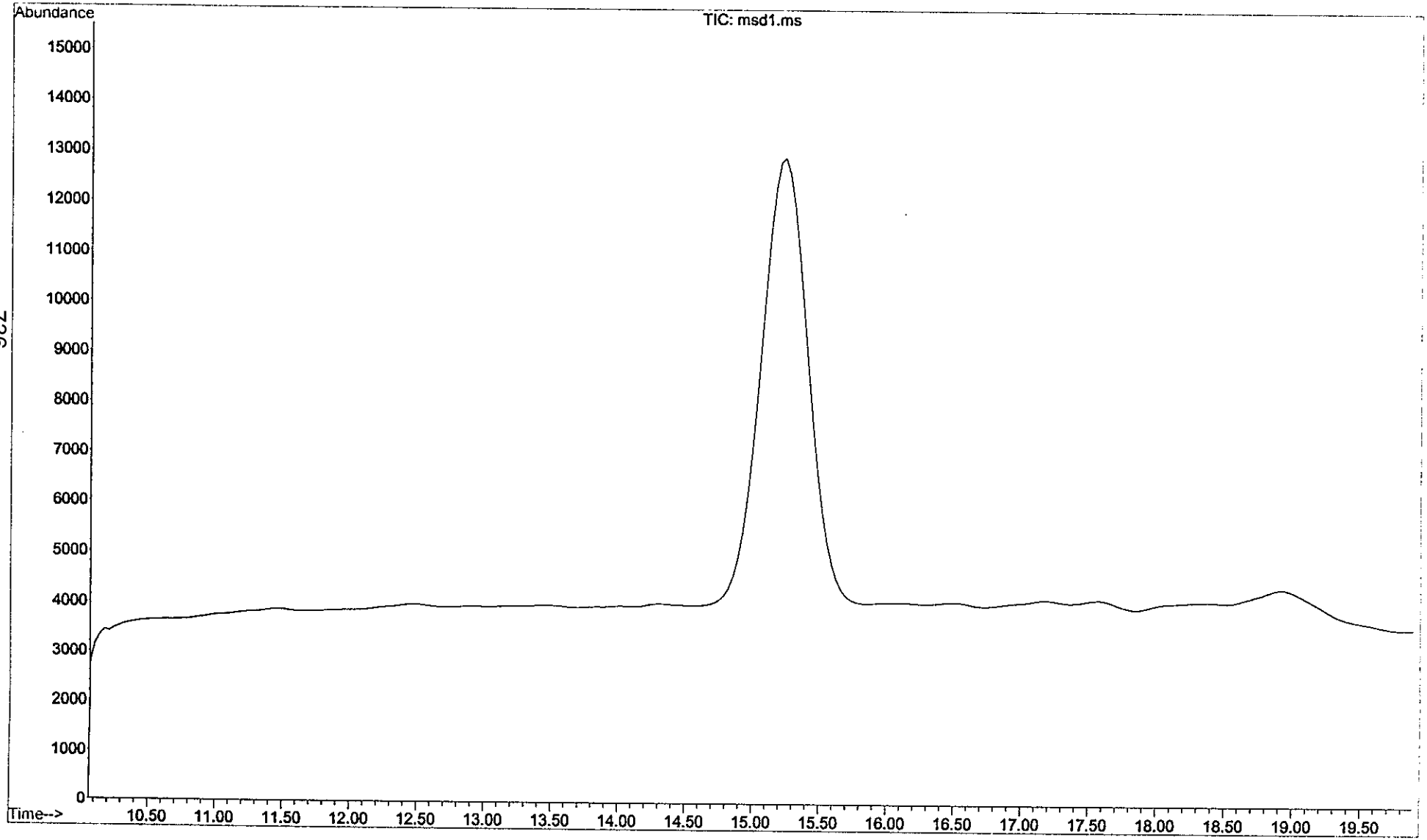
OK/GT mac

(#) = qualifier out of range (m) = manual integration
B0023507.D PERC0829.M Thu Nov 03 13:47:52 2011

Quantitation Report

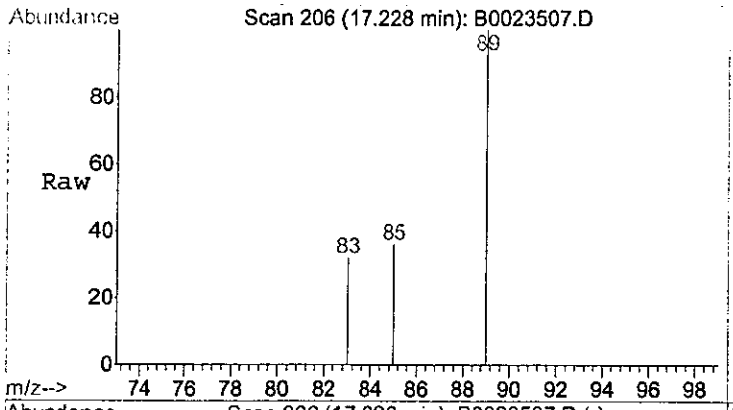
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023507.D Vial: 15
Acq On : 3 Nov 2011 11:59 am Operator: m.pedro
Sample : rq1111082-05 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:48 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



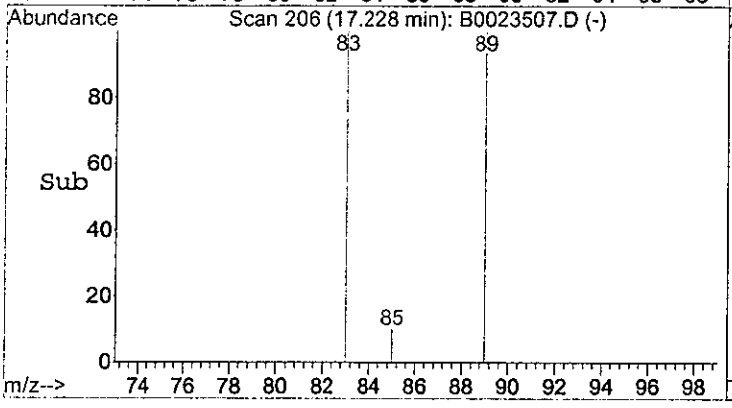
736

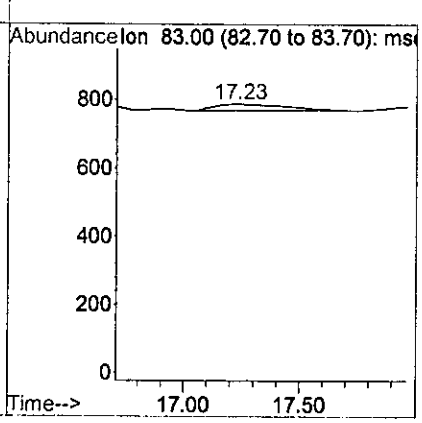
0014 3H

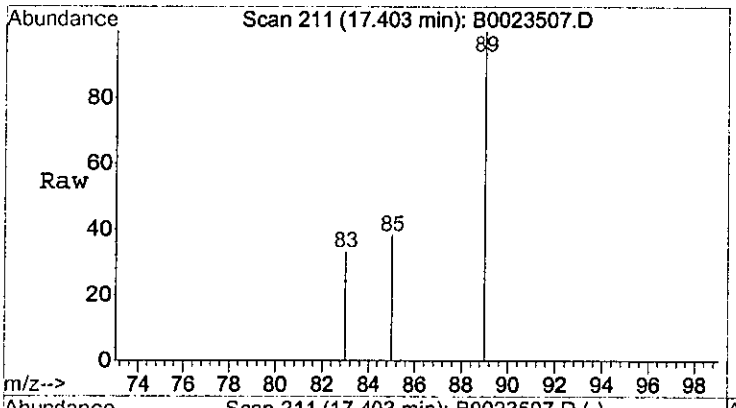


#2
Perchlorate
Concen: 0.15 ug/L
RT: 17.23 min Scan# 206
Delta R.T. 0.70 min
Lab File: B0023507.D
Acq: 3 Nov 2011 11:59 am

Tgt Ion: 83 Resp: 384

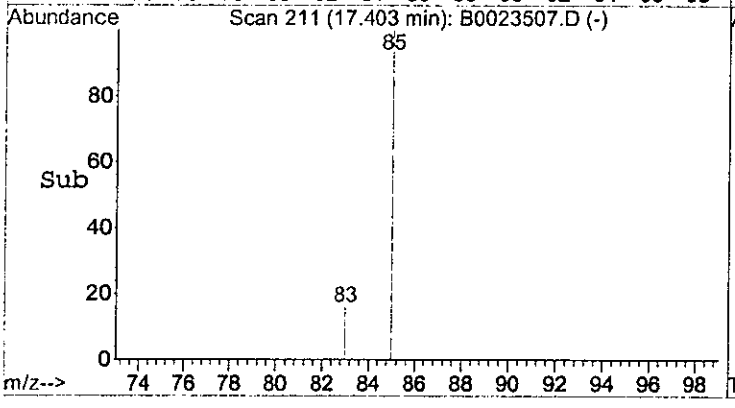


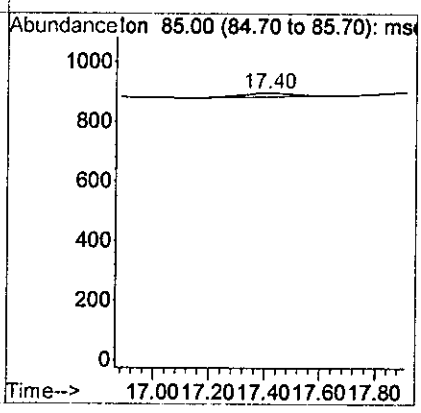




#3
#2 perc ion
Concen: 0.21 ug/L
RT: 17.40 min Scan# 211
Delta R.T. 0.87 min
Lab File: B0023507.D
Acq: 3 Nov 2011 11:59 am

Tgt Ion: 85 Resp: 182





PERCHLORATE

RAW QC DATA

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/Kg
Lab Code:	RQ1111082-01	**Basis:**	Dry

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.0	U	2.0	0.32	1	11/ 2/11	11/3/11 10:33	145665	268064	

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023503.D Vial: 11
Acq On : 3 Nov 2011 10:33 am Operator: m.pedro
Sample : rq1111082-01 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:47 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.08	89	180548	1.00	ug/L	-0.45
Target Compounds						Qvalue
2) Perchlorate	15.97	83	1195	0.01	ug/L	100
3) #2 perc ion	16.04	85	1329	0.02	ug/L	100

Ratio
0.90

Q DE2

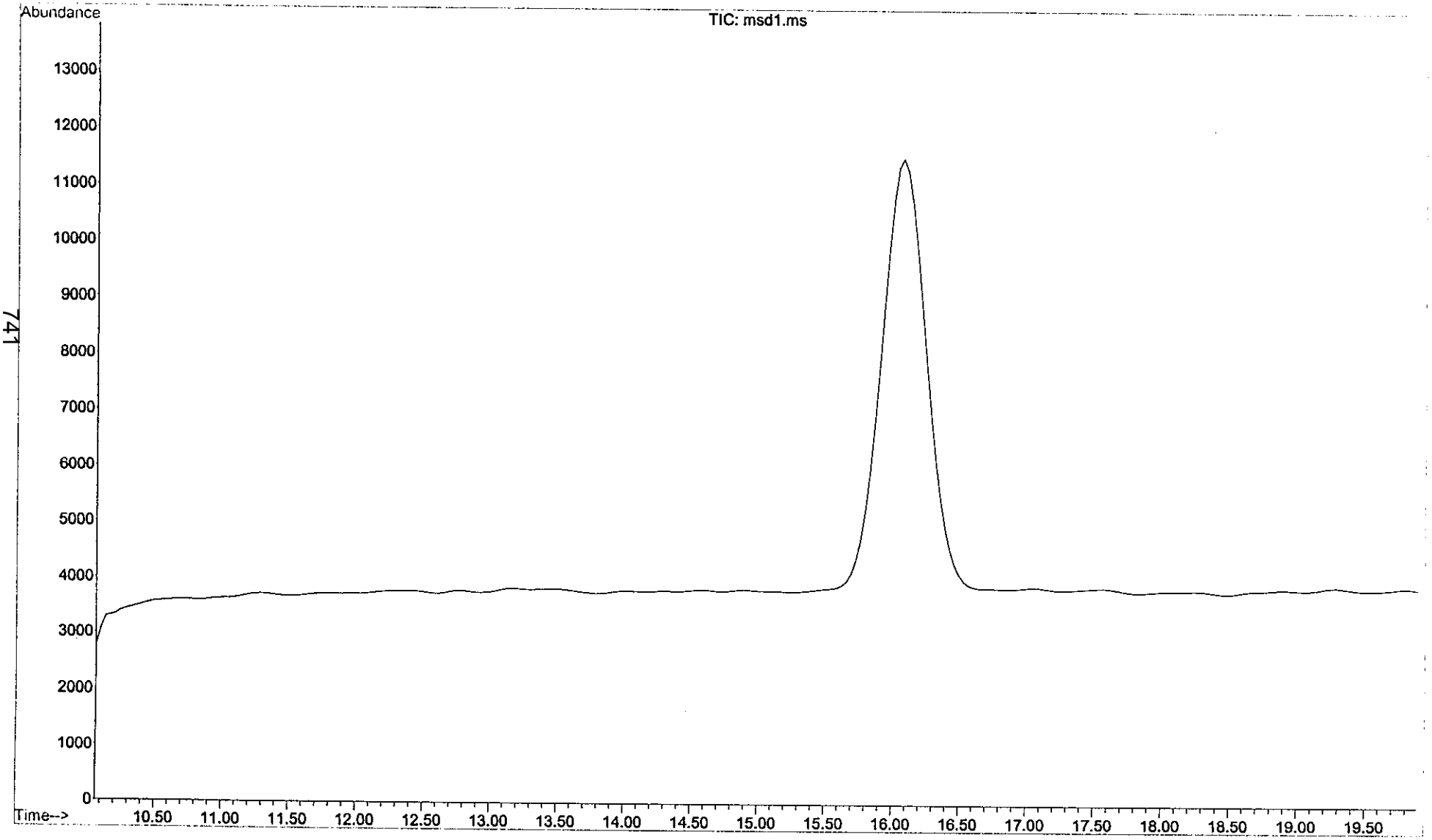
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023503.D PERC0829.M Thu Nov 03 13:47:51 2011 740

Quantitation Report

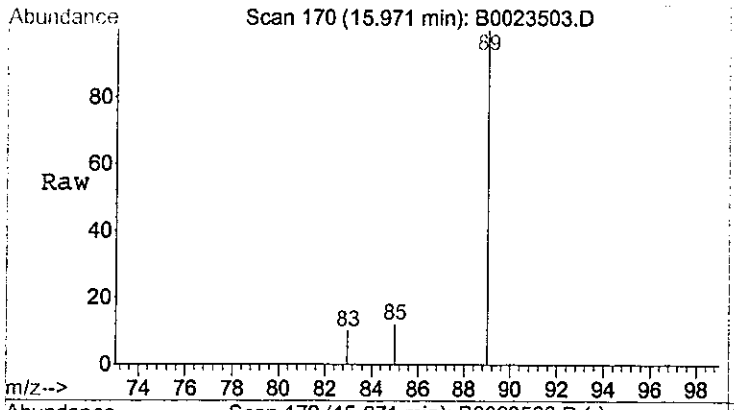
Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023503.D Vial: 11
Acq On : 3 Nov 2011 10:33 am Operator: m.pedro
Sample : rq1111082-01 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:47 2011 Quant Results File: PERC0829.RES

Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



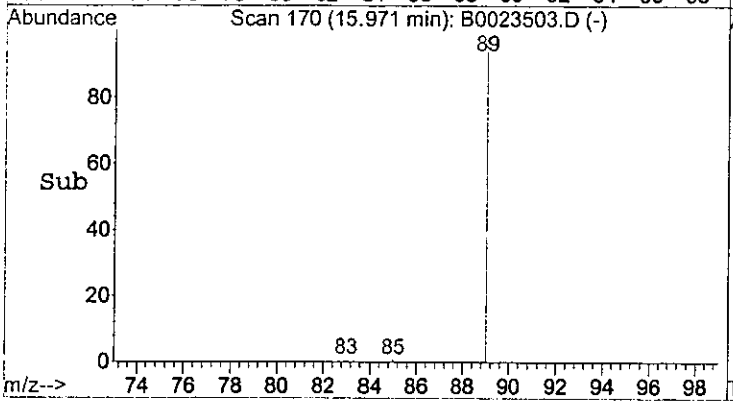
747

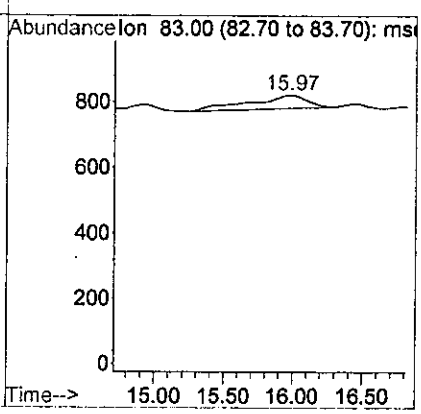
00123

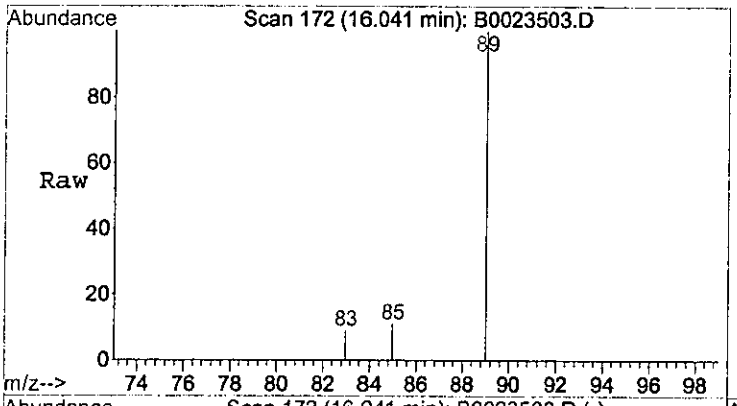


#2
Perchlorate
Concen: 0.01 ug/L
RT: 15.97 min Scan# 170
Delta R.T. -0.56 min
Lab File: B0023503.D
Acq: 3 Nov 2011 10:33 am

Tgt Ion: 83 Resp: 1195

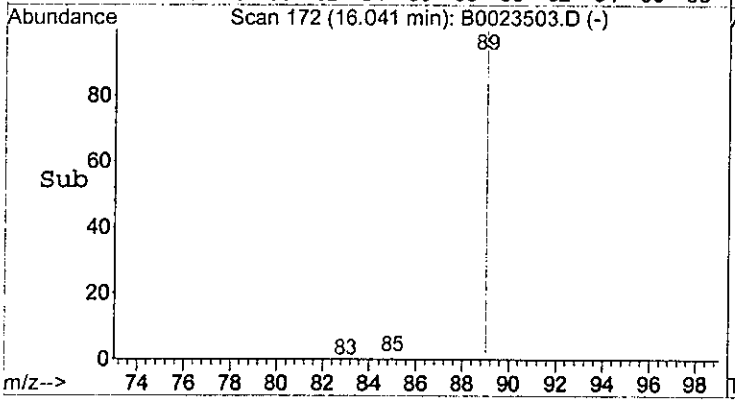


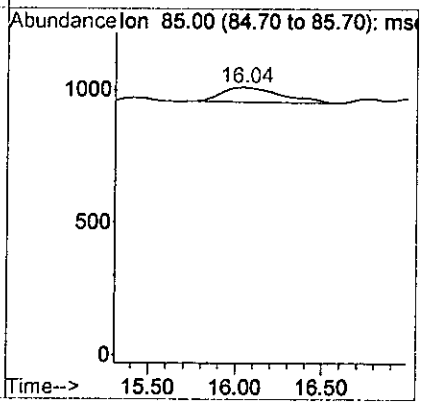




#3
#2 perc ion
Concen: 0.02 ug/L
RT: 16.04 min Scan# 172
Delta R.T. -0.49 min
Lab File: B0023503.D
Acq: 3 Nov 2011 10:33 am

Tgt Ion: 85 Resp: 1329





COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/Kg
Lab Code:	RQ1111082-02	**Basis:**	Dry

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**1.70**	J	2.0	0.32	1	11/ 2/11	11/3/11 11:16	145665	268064	

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023505.D Vial: 13
Acq On : 3 Nov 2011 11:16 am Operator: m.pedro
Sample : rq1111082-02 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:48 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.08	89	188676	1.00	ug/L	-0.45
Target Compounds						Qvalue
2) Perchlorate	16.08	83	41875	0.17	ug/L	100
3) #2 perc ion	16.08	85	15398	0.19	ug/L	100

Ratio
2.72

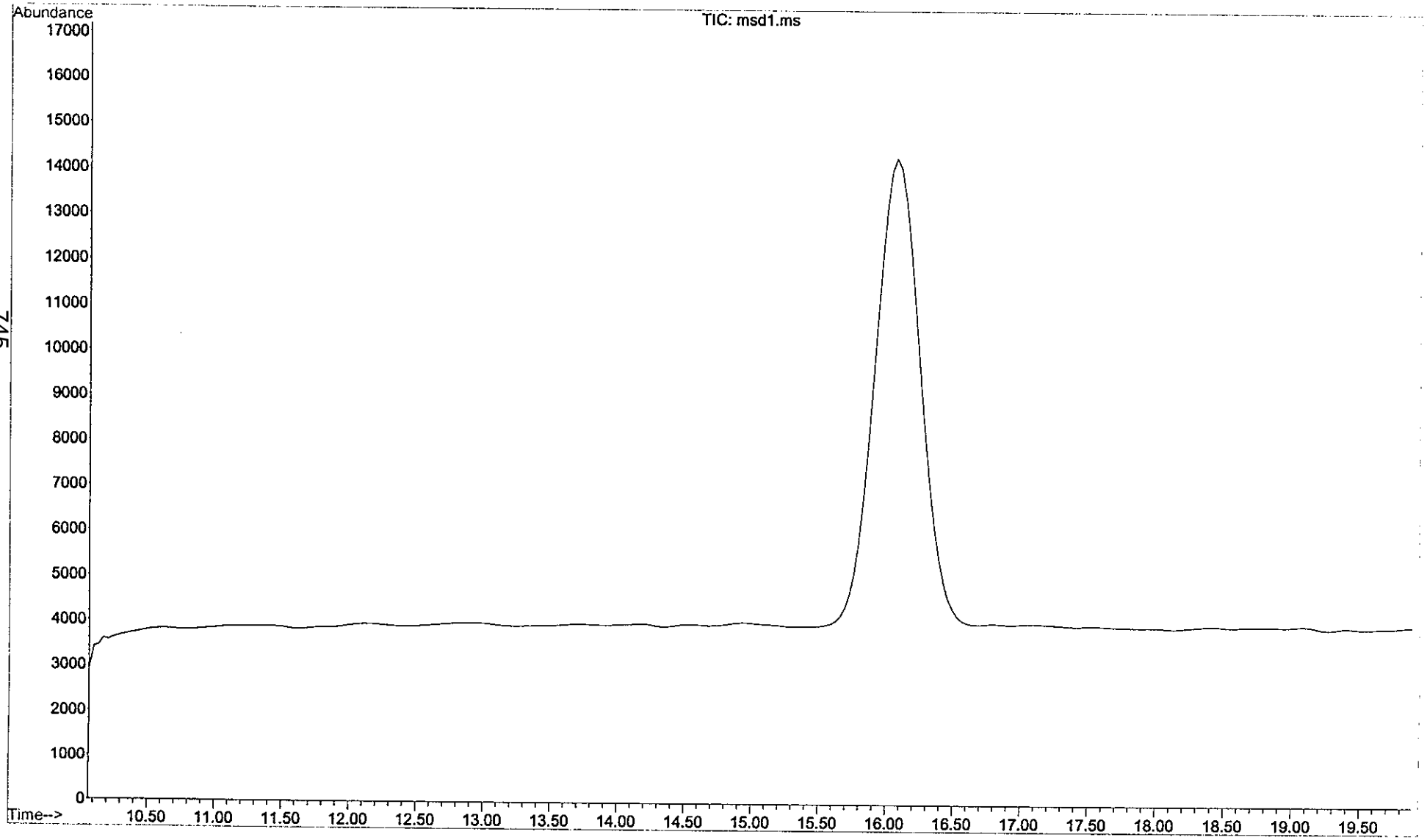
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023505.D PERC0829.M Thu Nov 03 13:48:47 2011

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023505.D Vial: 13
Acq On : 3 Nov 2011 11:16 am Operator: m.pedro
Sample : rq1111082-02 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:48 2011 Quant Results File: PERC0829.RES

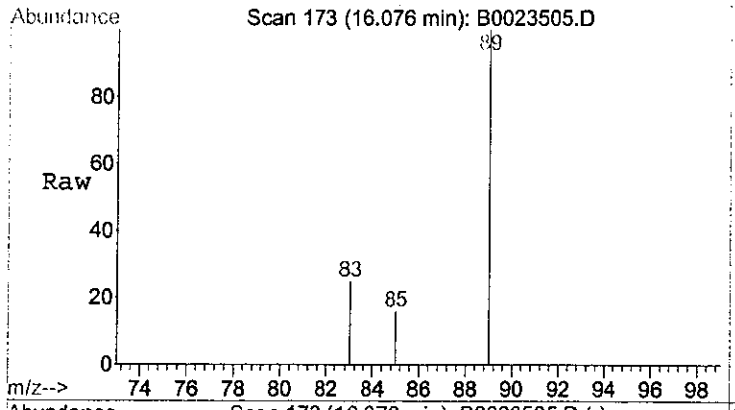
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



745

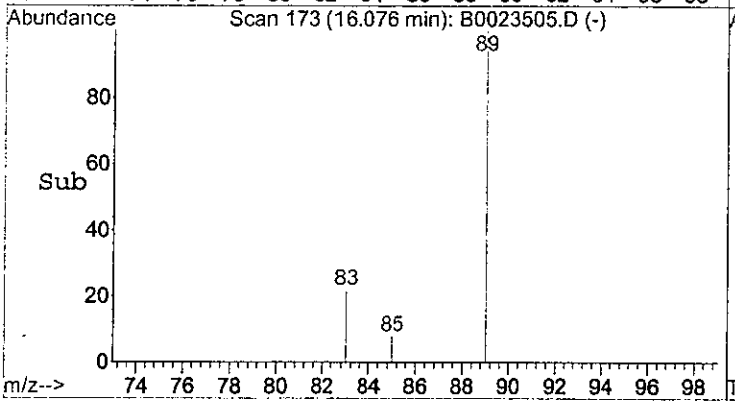
Ch1 708

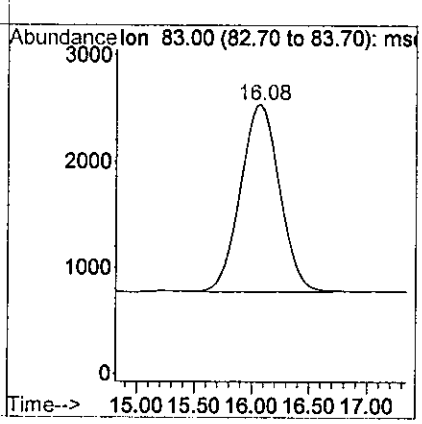
B0023505.D PERC0829.M Thu Nov 03 13:48:09 2011

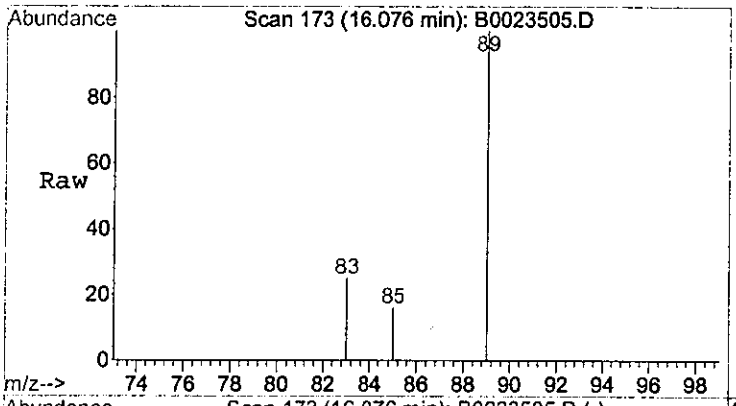


#2
Perchlorate
Concen: 0.17 ug/L
RT: 16.08 min Scan# 173
Delta R.T. -0.45 min
Lab File: B0023505.D
Acq: 3 Nov 2011 11:16 am

Tgt Ion: 83 Resp: 41875

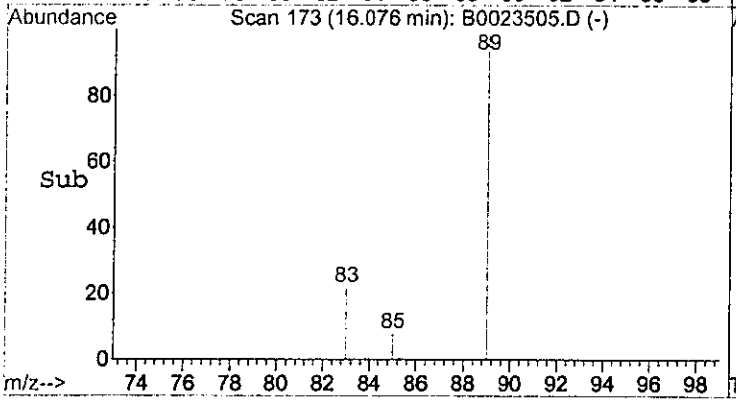


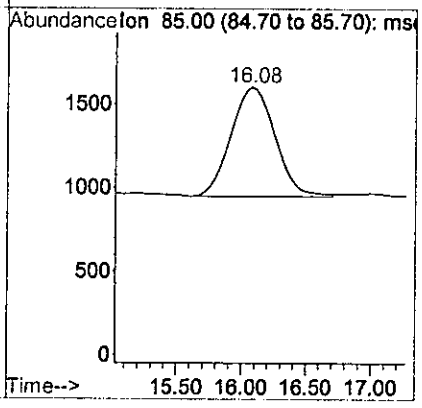




#3
#2 perc ion
Concen: 0.19 ug/L
RT: 16.08 min Scan# 173
Delta R.T. -0.45 min
Lab File: B0023505.D
Acq: 3 Nov 2011 11:16 am

Tgt Ion: 85 Resp: 15398





Client:	URS Corporation	**Service Request:**	K1110227
Project:	Santa Susana Field Laboratory	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/Kg
Lab Code:	RQ1111082-03	**Basis:**	Dry

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**1.80**	J	2.0	0.32	1	11/ 2/11	11/3/11 11:38	145665	268064	

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023506.D Vial: 14
Acq On : 3 Nov 2011 11:38 am Operator: m.pedro
Sample : rq1111082-03 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:48 2011 Quant Results File: PERC0829.RES

Quant Method : J:\ACQUDATA\H...\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration
DataAcq Meth : PERCDODZ.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) O18LP	16.04	89	186876	1.00	ug/L	-0.49
Target Compounds						Qvalue
2) Perchlorate	16.04	83	44257	0.18	ug/L	100
3) #2 perc ion	16.08	85	16280	0.20	ug/L	100

Ratio
2.72

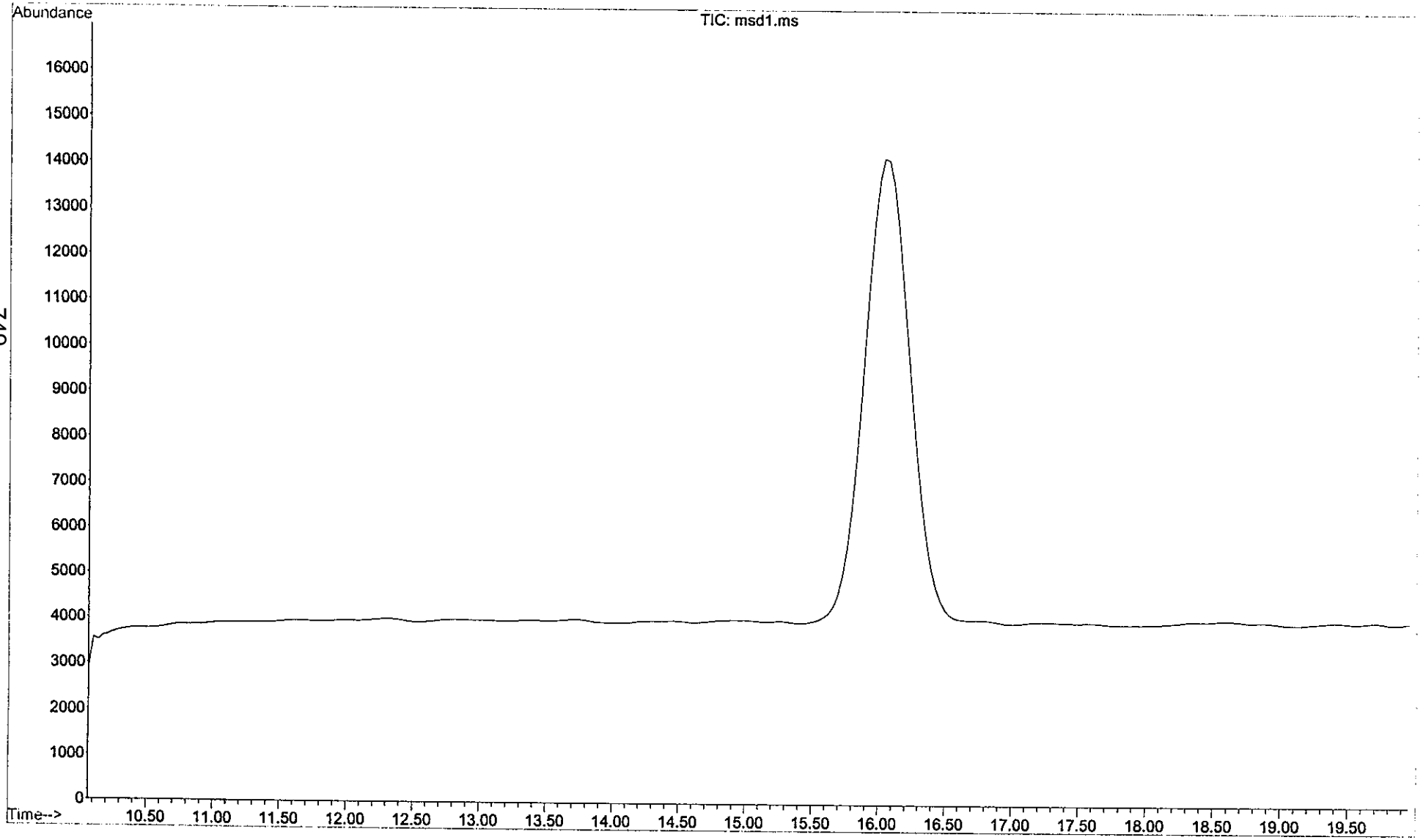
BA
11/3

(#) = qualifier out of range (m) = manual integration
B0023506.D PERC0829.M Thu Nov 03 13:48:04 2011

Quantitation Report

Data File : J:\ACQUDATA\HPLC02\DATA\110311\B0023506.D Vial: 14
Acq On : 3 Nov 2011 11:38 am Operator: m.pedro
Sample : rq1111082-03 Inst : Instrumen
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 13:48 2011 Quant Results File: PERC0829.RES

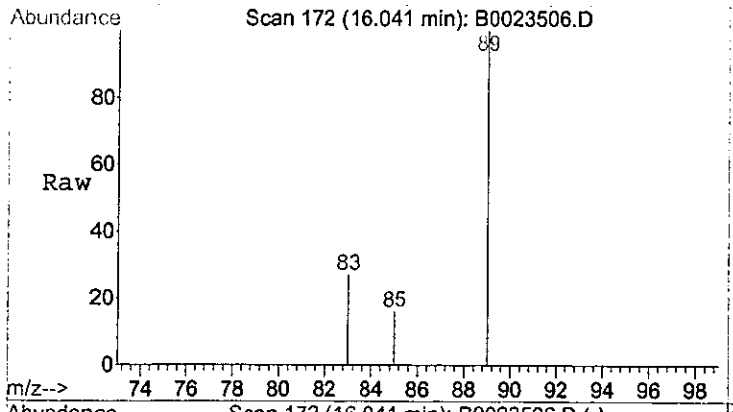
Method : J:\ACQUDATA\HPLC02\METHODS\PERC0829.M (RTE Integrator)
Title : Perchlorate by DOD
Last Update : Thu Oct 06 10:57:52 2011
Response via : Initial Calibration



749

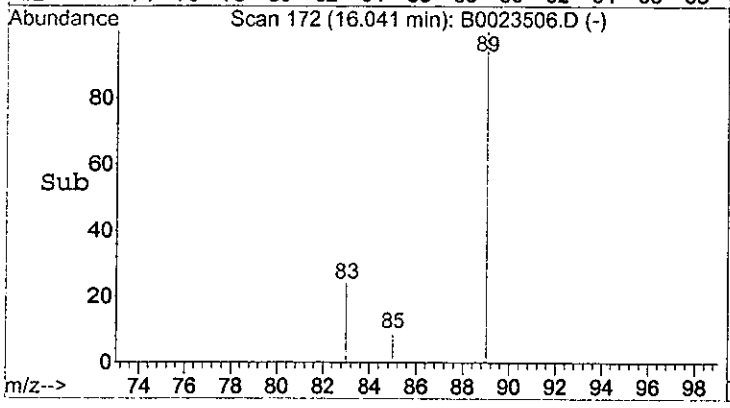
09147

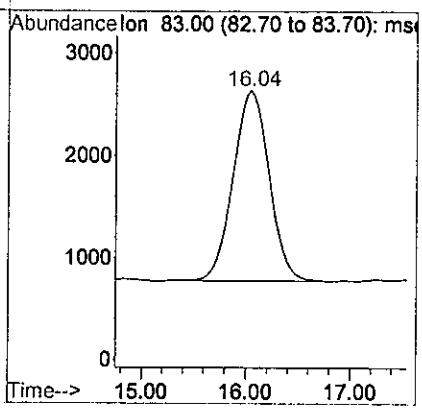
B0023506.D PERC0829.M Thu Nov 03 13:48:17 2011 Page 2

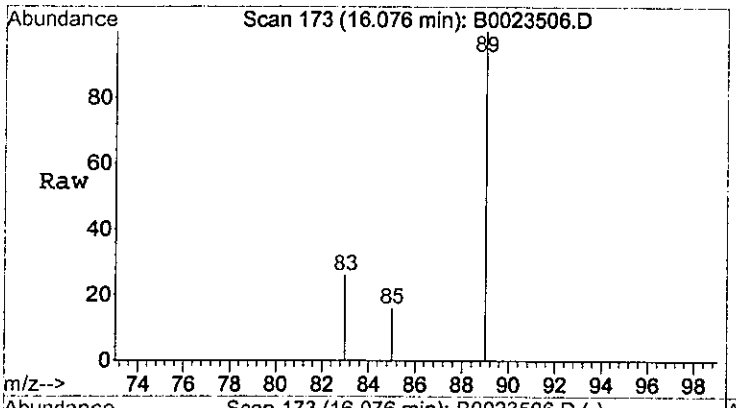


#2
Perchlorate
Concen: 0.18 ug/L
RT: 16.04 min Scan# 172
Delta R.T. -0.49 min
Lab File: B0023506.D
Acq: 3 Nov 2011 11:38 am

Tgt Ion: 83 Resp: 44257

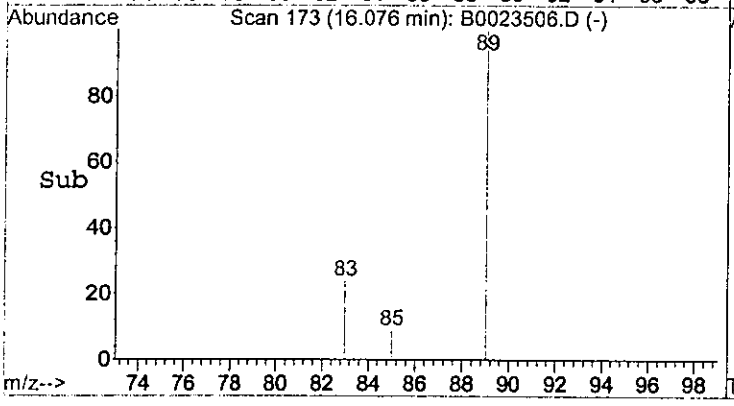


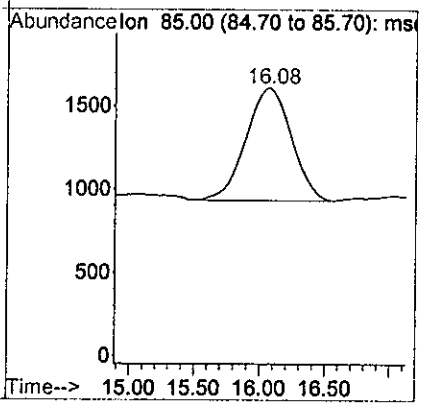




#3
#2 perc ion
Concen: 0.20 ug/L
RT: 16.08 min Scan# 173
Delta R.T. -0.45 min
Lab File: B0023506.D
Acq: 3 Nov 2011 11:38 am

Tgt Ion: 85 Resp: 16280





Extraction Analyst: Bill Allgeier	**Spiked By:** BA	**Prep Method:** ☒ DOD	**Key:** COLUMBIA ANALYTICAL SERVICES - ROCHESTER, NY	**Batch ID:** curve08291
Extraction Date: 8/29/2011	**Spk Witness:**		Color: C = Colorless; Y = Yellow; B = Brown; BL = Black; G = Grey	
Concentration Tech:			Clarity: CLR = Clear; CDY = Cloudy; OP = Opaque	
28 Day HT:			Soils: F = Fine/Sand; M = Medium/Soil; C = Coarse/Rocks	

Client / Sub. #	Order #	Initial Wt. (g) / Initial Vol. (ml)	Appearance (see Key)	Analysis (Test) Requested			Conc. Date	Final Vol (ml)	Date Complete	Comments
	curve blk	10ml	c-clr	PERCDOD				10ml	8/29/2011	
1.0ul 1[D]	0.100ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	
2.0ul 1[D]	0.200ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	
5.0ul 1[B]	0.500ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	
7.5ul 1[C]	0.750ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	
10ul 1[A]	1.00ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	
20ul 1[C]	2.00ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	
50ul 1[C]	5.00ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	
10ul 1[B]	icv 1.00ppb	10ml	c-clr	PERCDOD				10ml	8/29/2011	

Spikes:

☒	InternalStandard(o18LP)	*Amt.* _10ul_	*Conc.* _1000_ ppb	*Lot#*	30353
☒	Primary Perchlorate	*Amt.* _____ ml	*Conc.* _1000_ ppb	*Lot#*	32681
☒	Secndary Perchlorate	*Amt.* _____ ml	*Conc.* _1000_ ppb	*Lot#*	32682
☐		*Amt.* _____ ml	*Conc.* _____ ppm	*Lot#*	

Clean-Ups: ☐ None
☐ Cartridges *By/Date*_____ *Lot#*_____
☐ 0.45uM filter

Reagents:

☐	HPLC grade H2O Lot #	MILLIPORE 08/29/11	☒	(gl)acetic acid Lot# 26013	mobile phase
			☐	ICS STOCK Lot#	
			☒	Acetonitrile Lot# 31388	mobile phase

☐ Lot#
☐ Lot#
☐ Lot#

751

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Preparation Information Benchsheet

Prep Run#: 145665
Team: Semivoa GC/BALLGEIER (ReDo)

Prep WorkFlow: Org CLO4
Prep Method: Method

Status: Draft
Prep Date/Time: 11/2/11 01:23 PM

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ1111082-01	MB		1.0g	6850/ClO4					ottwa sand / clear	10.0000 uL/36169	
2	RQ1111082-02	LCS		1.0g	6850/ClO4					ottwa sand / clear	2.0000 uL/32682; 10.0000 uL/36169	
3	RQ1111082-03	DLCS		1.0g	6850/ClO4					ottwa sand / clear	2.0000 uL/32682; 10.0000 uL/36169	
4	RQ1111082-04	LODV		1.0g	6850/ClO4					ottwa sand / clear	1.0000 uL/32682; 10.0000 uL/36169	
5	RQ1111082-05	ICS		1.0g	6850/ClO4					ottwa sand / clear	2.0000 uL/32682; 10.0000 uL/36169	
6	K1110169-002	CZBS0064S005 Soil	.04	1.0g	6850/ClO4					brown soil / clear	10.0000 uL/36169	
7	K1110169-003	CZBS0019S005 Soil	.04	1.0g	6850/ClO4					brown soil / clear	10.0000 uL/36169	
8	K1110169-004	CZBS0040S035 Soil	.04	1.0g	6850/ClO4					brown soil / clear	10.0000 uL/36169	
9	K1110227-001	CZBS0054S005 Soil	.04	1.0g	6850/ClO4					brown soil / clear	10.0000 uL/36169	
10	K1110363-001	CZBS0069S005 Soil	.04	1.0g	6850/ClO4					brown soil / clear	10.0000 uL/36169	
11	K1110363-002	CZBS0089S005 Soil	.04	1.0g	6850/ClO4					brown soil / clear	10.0000 uL/36169	
12	RQ1111082-06	K1110363-002 MS	.04	1.0g	6850/ClO4					brown soil / clear	2.0000 uL/32682; 10.0000 uL/36169	
13	RQ1111082-07	K1110363-002 DMS	.04	1.0g	6850/ClO4					brown soil / clear	2.0000 uL/32682; 10.0000 uL/36169	

Spiking Solutions

752

Name: Perchlorate 1000 ppb CLO4 Inventory ID 32682 Logbook Ref: Expires On: 01/28/2012

Name: O18 isotopic labeled perchlorate Inventory ID 36169 Logbook Ref: Expires On: 10/18/2012 Lot #: 022811

Preparation Materials

Water Deionized H2O	Millipore System (2263)	interference check standard for perchlorate	(32687)	Sand Ottawa	0-344-36S (5853)
SVOA BALANCE	R-BALANCE-05 (12939)				

Preparation Steps

Step:
Started:
Finished:
By:
Comments:

9/15/12

Comments: _____

Preparation Information Benchsheet

Prep Run#: 145665
Team: Semivoa GC/BALLGEIER

Prep WorkFlow: Org CLO4
Prep Method: Method

Status: Draft
Prep Date/Time: 11/2/11 01:23 PM

753

Reviewed By: Meghan Pena Date: 11/2/11

Chain of Custody

Relinquished By:		Date:	Extracts Examined
Received By:		Date:	Yes No

TITLE PROJECT

Continued from page 8/29/11 6850 Perclorate

SETUP: COLUMN K' PRIME 250 x 4.6 #2076

Acq = Perclod2 Quant = Perco829

AM BLK 1	B0022345 -	
EON/MASS CCV	(50AN 100PPB TARG + IS)	46 YT
STD 1		47 ~
2		48 ↓ INC EMS BLK RDT
3		49 ↓
INST BLK		50 Y
STD 1		51 Y
2		52 Y
3		53 Y
4		54 Y
5		55 Y
6		56 Y
7		57 Y
ICV		58 Y
CCV 100 PPB	PCURVE0829	59 YC
RQ1108468-01		60 Y
-04		61 Y
-02		62 Y
-03		63 Y
-05		64 Y
R1104722-002		65 Y
4764-001		66 Y
RQ1108468-06		67 Y
-07		68 Y
4764-002		69 Y
CCV 100 PPB	PCURVE0829	70 YC
-003		71 Y
-004		72 Y
-005		73 Y
-006		74 Y
-007		75 Y

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PROPRIETARY INFORMATION
00152

TITLE PROJECT

Continued from page

8/29/11 6850 Perchlorate

SETUP Column K' PRIME 250 x 4.6 # 2076

Acq = Percdad2 Quant = Perc0829

R1104801-001 76 Y

RQ1102468-04 (LODV) B0022378 Y

CCV 1.00 PPB (PCURVE0829 78 YC

Will C Dilly

$\bar{X}$ = 275152

High = 412728

Low = 137576

BA 8/29/11

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PROPRIETARY INFORMATION 00153

TITLE PROJECT

Continued from page 11/3/11 6850 Perchlorate
SETUP: column K' PRIME 250 x 4.6 # 2078
MOBILE: 50/50 H_2O/MECN + 0.1% v/v CH_3COOH
Acq= Perccdodz Quant= Perc0829

AM BLK'		B0023499 –
b 2		500 –
ION/MASS CCV	(XCAL 100 PPB TARG+IS)	501 YT
CCV 1.00 PPB	PCURVE0829	502 YC
RQ1111082 -01	(MB)	503 Y
-04	(LODU)	504 Y
-02	(LCS)	505 Y
-03	(DLCS)	506 Y
-05	(ICS)	507 Y
K1110169 -002		508 Y
-003		509 Y
-004		510 Y
227 -001		511 Y
363 -001		512 INT b
CCV 1.00 PPB	PCURVE0829	513 YC
363 -002		514 INT b
RQ1111082 -06	(MS)	515 Y
-07	(MSD)	516 INT b
-04	(LODU)	517 Y
CCV 1.00 PPB	PCURVE0829	518 YC
RQ1111136 -01	(MB)	519 Y
-04	(LODU)	520 Y
-02	(LCS)	521 Y
-03	(DLCS)	522 Y
-05	(ICS)	523 Y
R1106122 -001		524 Y
RQ1111136 -06	(MS)	525 Y
-07	(MSD)	526 Y
R1106122 -002		527 Y
-003		528 Y

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TITLE PROJECT BOOK

Continued from page 11/3/11 6850 Perchlorate
SETUP: column K' PRIME 250 x 4.6 # 2078
MOBILE: 50/50 H_2O/MECN + 0.1% v/v CH_3COOH
Acq= Perccdodz Quant= Perc0829

CCV 1.00 PPB	PCURVE0829	B0023529 YC
R1106122 -004		30 Y
6099 -021	100.0	31 Y
6100 -001		32 Rpt St
-002		33 Rpt St
6109 -001	500.0	34 Y
RQ1111136 -04	(LODU)	35 Y
CCV 1.00 PPB	PCURVE0829 (XCAL 100 PPB TARG+IS) PCURVE0829	36 YC
RQ1111135 -01	(MB)	37 YT
-04	(LODU)	38 40 Y
-02	(LCS)	39 41 Y
-03	(DLCS)	40 42 Y
-05	(ICS)	41 43 Y
R1106099 -001	100.0	42 44 BP
-002		43 45 BP
-003		44 46 Y
-004		45 47 Y
-005		46 48 BP
CCV 1.00 PPB	PCURVE0829	47 49 YC
-006	100.0	48 50 BP
-007		49 51 BP
-008		50 52 Y
-009		51 53 BP
-010		52 54 BP
-011		53 55 BP
-012		54 56 BP
-013		55 57 BP
-014		56 58 BP
-015		57 59 BP
CCV 1.00	PCURVE0829	58 60 Y

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TITLE PROJECT

Continued from page 11/3/11 6850 Perchlorate

SETUP: Column K' PRIME 250 x 4.6 #2078

MOBILE: 50/50 H_2O/MeCN + 0.1 % v/v CH_3COOH

Acq = Perc0829 Quant = Perc0829

R110.6099-016 100.0 B00235564 RPT STR

-017 0062 RPT 1/10

-018 0163 RPT STR

-019 0264 RPT STR

-020 0365 RPT STR

RQ111135-04 (LODU) 0466 Y

CCV 1.00 PPB PCURVE0829 0567 YC

X = 275152

Y = 412728

FOM = 137576

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PROPRIETARY INFORMATION

TITLE PROJECT BOOK

Continued from page

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